PLURALISMO EN LA MUERTE

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A mis abuelos, Antonia y Paco.

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Índice de contenidos

Resumen

Introducción: La determinación de la muerte ha sido un tema de discusión académico desde los inicios de la medicina. Sin embargo, desde que en 1959 los doctores Mollaret y Goulon (Mollaret & Goulon, 1959) acuñaran el término *coma dépassé* para referirse a un estado del individuo hasta entonces desconocido (cerebro y tronco encefálico completamente destruidos, pero funciones orgánicas mantenidas gracias a asistencia respiratoria) el debate en torno a la determinación de la muerte dio un vuelco. Desde el momento en el que este estado del cuerpo (*coma depassé*) se extendió por las distintas UCI's del mundo muchos académicos empezaron a discutir si acaso el *coma dépassé* no debería considerarse como equivalente a estar muerto. Este razonamiento llevó al Comité Ad Hoc de Harvard para la determinación de la muerte humana a añadir un segundo criterio para determinar la muerte humana: desde 1968 y a partir de este momento al criterio cardiorrespiratorio se le suma el criterio neurológico. Nacía así la muerte cerebral (en adelante, *muerte encefálica*). A partir de este momento han surgido numerosas propuestas alternativas a esta bifurcación de criterios para determinar la muerte humana. Una de ellas es el pluralismo en la determinación de la muerte.

Objetivo principal: El propósito de esta investigación es actualizar el debate sobre la muerte en bioética desde un modelo pluralista que permita a la ciudadanía escoger entre distintas definiciones de muerte. La justificación del pluralismo en esta cuestión ofrece el posible beneficio de incorporar más sensibilidades y demandas a la toma de decisión sobre la determinación de la muerte. Por otro lado, suscita cuestiones éticas sobre si es o no aceptable que personas en idénticas circunstancias clínicas sean consideradas con un estatus vital diferente, y plantea el problema epistémico de clarificar quién y sobre qué fundamentos detenta autoridad para establecer un diagnóstico de fallecimiento.

Metodología: Esta tesis doctoral combina métodos de análisis e interpretación de la bibliografía existente sobre determinación de la muerte (en áreas disciplinares como la medicina, la filosofía, el derecho y la bioética) con una propuesta de estudios empíricos cuyo propósito es explorar el conocimiento y las actitudes de distintos grupos demográficos (profesionales de la salud y ciudadanía) sobre la ética de la donación y el trasplante de órganos, la determinación de la muerte y el pluralismo.

Hallazgos: Se propone un modelo pluralista para determinar la muerte humana basado en la inexistencia de un consenso experto en torno a qué es estar muerto por criterio encefálico.

Discusión: Se discute si esa propuesta debería ser aplicada *de facto* o que si, por el contrario, es preferible mantener la dualidad de criterios actualmente existente.

Conclusión: La determinación de la muerte es una cuestión que afecta a todos los seres humanos de una u otra forma. En ella, además, intervienen todo tipo de conocimientos y creencias (religiosas, éticas, culturales, políticas, etcétera). Esta tesis doctoral concluye que el actual sistema es incoherente y contiene errores y que, por lo tanto, es razonable modificar el sistema.

Resultados: Se compendian siete artículos que desarrollan los objetivos de la tesis y que se encuentran publicados en revistas de relevancia científica. Los artículos son: I) *Pluralism in the Determination of Death*, II) *Death Pluralism: A Proposal*, III) *Rethinking the Role of Experimental Philosophy in Bioethics*, IV) *Public Perception of Organ Donation and Transplantation Policies in Southern Spain*, V) *The Brain Death Criterion in Light of Value-Based Disagreement versus Biomedical Uncertainty*, VI) *Death Determination and Clinicians' Epistemic Authority* y VII) *A Letter to the Article 'Whole Body Gestational Donation'*.

Abstract

Introduction: The determination of death has been an academic topic of discussion since the early days of medicine. However, the debate took a significant turn when, in 1959, doctors Mollaret and Goulon (Mollaret and Goulon 1959) coined the term "coma dépassé" to describe a previously unknown state of the individual (brain and brainstem destroyed but organic functions maintained with respiratory assistance). From that moment, the debate on the determination of death shifted. As the "coma dépassé" condition spread through various ICUs worldwide, many academics began to discuss whether "coma dépassé" should be considered equivalent to being dead. This reasoning led the Harvard Ad Hoc Committee for the Determination of Human Death to add a second criterion for determining human death: since 1968, the neurological criterion has been added to the cardiorespiratory criterion. Thus, brain death was born. Since then, numerous alternative proposals to this bifurcation of criteria for determining human death have emerged. One of them is pluralism in the determination of death.

Main Objective: The purpose of this research is to update the bioethical debate on death from a pluralistic model that allows the public to choose among different definitions of death. Justifying pluralism in this matter offers the potential benefit of incorporating more sensitivities and demands into the decision-making process on the determination of death. On the other hand, it raises ethical questions about whether it is acceptable for individuals in identical clinical circumstances to be considered with different vital statuses and poses the epistemic problem of clarifying who has authority and on what grounds to establish a diagnosis of death.

Methodology: This doctoral thesis combines methods of analysis and interpretation of existing literature on the determination of death (in disciplinary areas such as medicine, philosophy, law, and bioethics) with a proposal for empirical studies aimed at exploring the knowledge and attitudes of different demographic groups (health

professionals and the public) regarding the ethics of organ donation and transplantation, the determination of death, and pluralism.

Findings: A pluralistic model for determining human death is proposed based on the lack of expert consensus on what it means to be dead by encephalic criteria.

Discussion: The discussion revolves around whether this proposal should be applied de facto or whether it is preferable to maintain the current duality of criteria.

Conclusion: The determination of death is a matter that affects all human beings in one way or another. Additionally, it involves various types of knowledge and beliefs (religious, ethical, cultural, political, etc.). This doctoral thesis concludes that the current system is inconsistent and contains errors, and therefore, it is reasonable to modify the system.

Results: Seven articles that develop the objectives of the thesis and are published in reputable scientific journals are compiled. The articles are: *I) Pluralism in the Determination of Death, II) Death Pluralism: A Proposal, III) Rethinking the Role of Experimental Philosophy in Bioethics, IV) Public Perception of Organ Donation and Transplantation Policies in Southern Spain, V) The Brain Death Criterion in Light of Value-Based Disagreement versus Biomedical Uncertainty, VI) Death Determination and Clinicians' Epistemic Authority, and VII) A Letter to the Article 'Whole Body Gestational Donation'.*

Listado de publicaciones

En este apartado se enumeran las publicaciones realizadas durante la tesis doctoral que están vinculadas temáticamente a la misma y forman parte del compendio de artículos. Estas aparecen de forma íntegra y secuencial a lo largo de este texto. En el presente listado, junto a cita bibliográfica de cada publicación se añade el índice de impacto a fecha de enero de 2023 y algunos indicadores bibliométricos.

1. Diaz-Cobacho, G. and Molina-Pérez, A (2024). Pluralism in the determination of death. *Current Opinion in Behavioral Sciences*, Accepted.

Citas recibidas:

Según Google Scholar: 0

Según la revista: 0

La revista Current Opinion in Behavioral Sciences (ISSN: 2352-1554) es publicada por la editorial Elsevier (Países Bajos)

H Index: 63

Factor de Impacto (Scimago): Q1 (1.8)

Posición en su categoría

Scimago: 4

Está indexada en las siguientes bases de datos (según la propia revista):

- Science Citation Index Expanded

2. Díaz-Cobacho, G., Molina-Pérez, A., & Rodríguez-Arias, D. (2023). Death Pluralism: A Proposal. *Philosophy, Ethics, and Humanities in Medicine*, *18*(1), 10. https://doi.org/10.1186/s13010-023-00139-3.

Citas recibidas:

Según Google Scholar: 1

Según la revista: 1

La revista Philosophy, Ethics, and Humanities in Medicine (ISSN: 1747-5341) es publicada por la editorial BioMed Central (BMC) (Reino Unido)

H Index: 33

Factor de Impacto (SCImago): Q1 (0.68)

Posición en su categoría

SCImago: 25

Está indexada en las siguientes bases de datos (según la propia revista):

- Science Citation Index Expanded (SciSearch)
- SCImago
- SCOPUS
- Journal Citation Reports/Science Edition
- Social Science Citation Index
- Journal Citation Reports/Social Sciences Edition
- PsycINFO
- Google Scholar
- Academic OneFile
- Arts & Humanities Citation Index
- Current Abstracts
- Current Contents / Social & Behavioral Sciences
- Current Contents/Arts and Humanities
- EBSCO Academic Search
- EBSCO Biomedical Reference Collection
- EBSCO CINAHL
- EBSCO Health Policy Reference Center
- EBSCO STM Source
- EBSCO TOC Premier
- OCLC
- Summon by ProQuest
- The Philosopher's Index

3. Díaz-Cobacho, G., & Hannikainen, I. R. (2022). Rethinking the Role of Experimental Philosophy in Bioethics. *The American Journal of Bioethics, 22*(12), 69–72. https://doi.org/10.1080/15265161.2022.2134494.

Citas recibidas:

Según Google Scholar: 0

Según la revista: 0

La revista The American Journal of Bioethics (ISSN: 1536-0075) es publicada por la editorial Taylor & Francis Online (Reino Unido)

H Index: 69

Factor de Impacto (SCImago): Q1 (1.22)

Posición en su categoría

SCImago: 34

Está indexada en las siguientes bases de datos (según la propia revista):

- Bibliography of Bioethics
- Biological Abstracts
- CINAHL Cumulative Index to Nursing & Allied Health Literature
- Elsevier EMBIOLOGY
- Elsevier EMCARE
- Elsevier's Scopus
- ISI Current Contents: Social & Behavioral Sciences
- ISI Science Citation Index Expanded
- ISI Social Science Citation Index
- LEXIS/NEXIS
- MEDLINE/ Index Medicus
- OCLC ArticleFirst
- OCLC Electronic Collections Online
- PAIS International
- The Philosopher's Index

4. Díaz-Cobacho, G., Cruz-Piqueras, M., Delgado, J., Hortal-Carmona, J., Martínez-López, M. V., Molina-Pérez, A., Padilla-Pozo, Á., Ranchal-Romero, J., & Rodríguez-Arias, D. (2022). Public Perception of Organ Donation and Transplantation Policies in Southern Spain. Transplantation Proceedings, 54(3), 567-574. https://doi.org/10.1016/j.transproceed.2022.02.007

Citas recibidas:

Según Google Scholar: 5

Según la revista: 5

La revista Transplantation Proceedings (ISSN: 1873-2623) es publicada por la editorial Elsevier USA (Estados Unidos)

H Index: 88

Factor de Impacto (SCImago): Q3 (0.32)

Posición en su categoría

SCImago: 288

Está indexada en las siguientes bases de datos (según la propia revista):

- PubMed/Medline
- Science Citation Index Expanded
- Scopus

5. Martin, D., Díaz-Cobacho, G., & Hannikainen, I. (2023). The brain death criterion in light of value-based disagreement versus biomedical uncertainty. 24, 123-126. https://doi.org/10.13140/RG.2.2.10003.66082

Citas recibidas:

Según Google Scholar: 1

Según la revista: 1

La revista The American Journal of Bioethics (ISSN: 1536-0075) es publicada por la editorial Taylor & Francis Online (Reino Unido)

H Index: 69

Factor de Impacto (Scimago): Q1 (1.22)

Posición en su categoría

Scimago: 34

Está indexada en las siguientes bases de datos (según la propia revista):

- Bibliography of Bioethics
- Biological Abstracts
- CINAHL Cumulative Index to Nursing & Allied Health Literature
- Elsevier EMBIOLOGY
- Elsevier EMCARE
- Elsevier's Scopus
- ISI Current Contents: Social & Behavioral Sciences
- ISI Science Citation Index Expanded
- ISI Social Science Citation Index
- LEXIS/NEXIS
- MEDLINE/ Index Medicus
- OCLC ArticleFirst
- OCLC Electronic Collections Online
- PAIS International
- The Philosopher's Index

6. Rodríguez-Arias, D., Molina-Pérez, A., & Díaz-Cobacho, G. (2020). Death Determination and Clinicians' Epistemic Authority. *The American Journal of Bioethics, 20*(6), 44–47. https://doi.org/10.1080/15265161.2020.1754514.

Citas recibidas:

Según Google Scholar: 21

Según la revista: 15

La revista The American Journal of Bioethics (ISSN: 1536-0075) es publicada por la editorial Taylor & Francis Online (Reino Unido)

H Index: 69

Factor de Impacto (SCImago): Q1 (1.22)

Posición en su categoría

SCImago: 34

Está indexada en las siguientes bases de datos (según la propia revista):

- Bibliography of Bioethics
- Biological Abstracts
- CINAHL Cumulative Index to Nursing & Allied Health Literature
- Elsevier EMBIOLOGY
- Elsevier EMCARE
- Elsevier's Scopus
- ISI Current Contents: Social & Behavioral Sciences
- ISI Science Citation Index Expanded
- ISI Social Science Citation Index
- LEXIS/NEXIS
- MEDLINE/ Index Medicus
- OCLC ArticleFirst
- OCLC Electronic Collections Online
- PAIS International
- The Philosopher's Index

7. Díaz-Cobacho, G., & Villalba, A. (2023). A Letter to the Article 'Whole Body Gestational Donation' Published by Anna Smajdor in Theoretical Medicine and Bioethics. *Theoretical Medicine and Bioethics, 44*(4), 375–378. https://doi.org/10.1007/s11017-023-09630-6.

Citas recibidas:

Según Google Scholar: 1

Según la revista: 1

La revista Theoretical Medicine and Bioethics (ISSN: 1573-1200) es publicada por la editorial Springer (Estados Unidos)

H Index: 42

Factor de Impacto (SCImago): Q2 (0.46)

Posición en su categoría

SCImago: 20

Está indexada en las siguientes bases de datos (según la propia revista):

- AGRICOLA
- ANVUR
- BFI List
- Baidu
- CLOCKSS
- CNKI
- CNPIEC
- Current Contents / Social & Behavioral Sciences
- Dimensions
- EBSCO Biomedical Reference Collection
- EBSCO CINAHL
- EBSCO Discovery Service
- EBSCO STM Source
- EMCare
- ERIH PLUS
- Google Scholar
- Japanese Science and Technology Agency (JST)
- Journal Citation Reports/Social Sciences Edition
- Medline
- Naver

- OCLC WorldCat Discovery Service
- PhilPapers
- Portico
- ProQuest-ExLibris Primo
- ProQuest-ExLibris Summon
- SCImago
- SCOPUS
- Social Science Citation Index
- TD Net Discovery Service
- The Philosopher’s Index
- UGC-CARE List (India)
- Wanfang

Pluralismo en la muerte

Introducción[1]

La noche del 14 de diciembre de 1799, George Washington, primer presidente de los Estados Unidos de América murió en su casa a los 67 años. Durante años se ofrecieron diferentes hipótesis sobre el momento en el que había fallecido. La muerte de Washington fue atribuida a una tonsilitis y laringitis inflamatoria y supurativa. Sin embargo, en la actualidad se cree que la verdadera causa de fallecimiento pudo ser el agresivo tratamiento ofrecido por sus médicos, que le hicieron perder más de dos litros y medio de sangre en menos de un día (Witt, 2001). La figura de Washington es probablemente una de las más importantes de la historia contemporánea y el interés que suscita para esta investigación se debe a una de las últimas peticiones que hizo, antes de morir, respecto a este momento. Washington le pidió a su secretario Tobias Lear que bajo ningún concepto se le enterrase hasta pasados, al menos, dos días desde que se le declarase como muerto.

El miedo a ser enterrado vivo, esto es, a no ser correctamente diagnosticado como muerto afectó a una gran parte de la sociedad durante cientos de años. Algunos ritos fúnebres arraigados en la sociedad como el velatorio tienen su origen en la Edad Media por la necesidad de no dar por fallecido a un individuo antes de tiempo. En el caso del velatorio, se daba en caso de que en muchas zonas de Occidente la ingesta de ciertas sustancias como el alcohol mezclado con el estaño de los vasos y jarras producía un sueño tan profundo e inconsciente en las personas que estas parecían muertas. Por esta razón, se vigilaba el cuerpo unos días para comprobar que, en efecto, este carecía de vida antes de enterrarlo (Lysaght, 2003).

Por esta misma razón, se originaron también algunas medidas durante el proceso de enterramiento que permitían al sepultado salvaguardar su integridad en el caso de

[1] Esta es una tesis realizada en la modalidad de compendio de publicaciones. El texto contiene fragmentos adaptados y traducidos de las siete publicaciones que forman parte de dicho compendio.

“resucitar” tras su enterramiento. Estos inventos consistían, por lo general, en algún tipo de mecanismo que permitiese activar un elemento sonoro que alertara de la presencia de vida dentro del ataúd (Cascella, 2016). La forma más frecuente de este mecanismo era la de una campana atada a un cordel. Aunque con el paso de los años estos mecanismos se fueron perfeccionando.

Si George Washington hubiera sido nuestro coetáneo, probablemente sería diagnosticado con un trastorno conocido como tapofobia, o miedo irracional y persistente a ser enterrado vivo, por su miedo a poder haber sido erróneamente diagnosticado muerto y enterrado vivo. Ahora bien (Cascella, 2016): *¿Es siempre irracional ese temor? ¿Somos capaces de distinguir los diagnósticos de fallecimiento certeros de los erróneos?* Si el motivo que llevó a Washington, a finales del siglo XIX, a no querer ser enterrado de forma apresurada no nos persiguiera hasta hoy quizá esta tesis no tendría tanto sentido. Lo que la justifica es la persistente incapacidad científica para diagnosticar de manera inequívoca la muerte humana. Sobre esta incapacidad se asientan, en gran medida, las controversias bioéticas contemporáneas sobre la determinación de la muerte.

Determinar cuándo alguien muere es complicado. Sin embargo, es un acto necesario para que la sociedad pueda avanzar. Cuando asumimos que una persona fallece se activan una serie de protocolos sociales que permiten al entorno social del difunto poder continuar con su vida de forma funcional. Este protocolo está compuesto por varias acciones de índole legal, espiritual, emocional y médica que sólo pueden ser iniciadas una vez se considera que la persona ha fallecido.

En el apartado *legal*, la muerte de una persona implica la resolución de numerosas cuestiones tales como la repartición de su herencia, la obtención por parte de algunos miembros de la familia de una pensión, el fin de sus obligaciones legales con el estado y otra serie de prácticas jurídicas asociadas al final de la vida de un individuo.

En el plano *espiritual y emocional*, los ritos funerarios son un paso que está presente en casi todas las sociedades como forma de despedida por parte de las personas cercanas al fallecido. Son, además, el momento en el que por norma general comienza el duelo de esos allegados.

Por último, en el plano *médico*, tener la certeza de que alguien ha muerto es crucial para activar una serie de protocolos como la retirada de los tratamientos de soporte vital y el resto de los cuidados implícitos en la atención hospitalaria, la realización, si fuera preciso, de una autopsia y la obtención de los órganos y tejidos del fallecido.

A lo largo de la historia, sin embargo, los seres humanos nos hemos encontrado con numerosas dificultades a la hora de determinar cuando alguien ha fallecido. En el pasado, la determinación de la muerte estuvo exclusivamente asociada al cese de las funciones cardiorrespiratorias. Dicho cese se expresaba de forma general a través del fin de la capacidad de respirar de una persona. Que el sujeto fuera incapaz de inhalar o exhalar aire indicaba que posiblemente estaría muerto.

Esta fue la creencia que se mantuvo durante toda la Edad Media y hasta bien avanzado el siglo XIX, cuando gracias a la aparición de nuevas técnicas de diagnóstico y reanimación (como, por ejemplo, el estetoscopio), los profesionales sanitarios pudieron diagnosticar con mayor precisión la muerte por criterio cardiorrespiratorio.

Esta complejidad aumentó aún más desde que a finales de la década de 1950 se produjeran una serie de avances técnico-médicos que tuvieron un gran impacto en la práctica médica. A raíz de estos avances, en un breve período de tiempo la comunidad médica se encontró ante un grave problema: las nuevas tecnologías a su disposición habían provocado que personas que hasta la fecha habrían fallecido por un daño total e irreversible en el cerebro ahora permanecieran con vida, manteniendo sus funciones vitales activas únicamente a causa de la existencia de dispositivos de soporte vital que sustituían las funciones que corresponden al cerebro y al tronco encefálico.

Los primeros profesionales sanitarios en ponerle nombre a este nuevo fenómeno fueron los doctores Wertheimer, Jouvet y Descortes, que en el año 1959 lo llamaron "muerte del sistema nervioso" (Escalante Cobo, 1996). De forma prácticamente simultánea, en ese mismo año, los doctores Mollaret y Goulon (Mollaret & Goulon, 1959) diagnosticaron varios casos que eran concordantes con la definición de "muerte del sistema nervioso", aunque en su caso lo llamaron *coma depassé*[2].

Una vez que esta nueva tecnología se empezó a extender de forma universal, los hospitales de distintos lugares del mundo comenzaron a llenarse de personas sin ninguna posibilidad de recuperación o mejora pero que, legalmente, seguían siendo consideradas como vivas. Esta situación generó una gran polémica dentro de la comunidad médica, dado que las consecuencias de estos avances tecnológicos eran enormes.

En el caso de un individuo en *coma depassé*, no solo ocupaba una cama de hospital que podría destinarse a un paciente con una evolución más positiva, sino que también requería un tratamiento costoso. Además, estos pacientes, debido a su estado, se convertían en donantes de órganos excepcionales. Dada su situación, en la que el cuerpo mantenía funciones cardiorrespiratorias de forma asistida, era posible extraer prácticamente todos los órganos con un riesgo mínimo de isquemia, una oportunidad que en otros escenarios sería difícil de aprovechar.

Por todas estas razones, a finales de los años sesenta se produjeron dos reuniones para tratar de buscar algún tipo de solución a esta problemática. Las dos instituciones que se reunieron fueron la Asamblea Médica Mundial y el Comité Ad Hoc de la Escuela de Medicina de Harvard para Explorar la Definición de la Muerte Cerebral. La Asamblea Médica Mundial se reunió en Sídney para discutir, entre otras cosas, la difícil situación

[2] Este término hacía referencia a una lesión que provocaba un daño catastrófico en el cerebro y tronco encefálico de la persona que lo sufría, y que, a diferencia de aquellas personas que se encontraban en un estado vegetativo persistente, requerían de ayuda extracorpórea para que el individuo afectado pudiese mantener sus funciones orgánicas.

a la que se enfrentaban los profesionales sanitarios tras los nuevos avances tecnológicos (Machado et al., 2007). Esa misma razón provocó que el Comité Ad Hoc de la Escuela de Medicina de Harvard para Explorar la Definición de la Muerte Cerebral (Ad Hoc Committee, 1968), presidido por Henry Beecher, se reuniese. En ambas reuniones se llegó a una reflexión similar: las personas en *coma depassé* debían ser consideras muertas. Para ello, era necesario crear un criterio adicional al cardiorrespiratorio para determinar la muerte humana. Este criterio, que se basada en la idea de que un cerebro y tronco encefálicos completamente destruidos constituían la muerte del individuo, se llamaría *criterio neurológico* o muerte cerebral (Ad Hoc Committee, 1968).

Este nuevo criterio, que comúnmente se conoce como muerte encefálica, equiparaba el fenómeno conocido hasta entonces como *coma depassé* a la muerte. Esta decisión sería un hito muy importante para la historia de la medicina: el hecho de que las personas hasta ahora consideradas vivas cambiasen su estatus vital provocaba, por un lado, que pasaran a poder ser donantes de órganos. Por otro, se evitaba que las personas en muerte encefálica ocupasen un espacio y gastasen unos recursos sin ningún tipo de mejora pronosticable (Ad Hoc Committee, 1968).

Tras la inclusión del nuevo criterio para determinar la muerte, este fue rápidamente implementado en la práctica médica de muchos países del mundo, así como en sus legislaciones. En la actualidad, al menos 83 países en todo el mundo tienen protocolos para la determinación de la muerte por criterios neurológicos (Lewis et al., 2020), siendo, además, una de las razones principales por las que los sistemas de donación y trasplante de órganos son un éxito en numerosos países. Sólo en España, el 65% de las donaciones cadavéricas provienen de personas diagnosticadas como muertas por criterio encefálico (EDQM, 2021).

Este dato es relevante, principalmente, por dos razones: I) La donación de órganos salva vidas, según el Observatorio Mundial el número total de trasplantes realizados en el año 2022 ascendió a más de 157,000.

> Según el Observatorio Mundial, en 2022 se realizaron 157.540 trasplantes de órganos en los 91 países que han facilitado sus datos a 23 de agosto de 2023. De ellos, 102.090 fueron trasplantes de riñón (39% de donante vivo), 37.482 de hígado (24% de donante vivo), 8.988 de corazón, 6.784 de pulmón, 2.026 de páncreas y 170 de intestino. Estos trasplantes fueron posibles gracias a 41.793 donantes fallecidos, a los que se suman 48.676 donantes vivos (39.601 de riñón, 9.061 de hígado y 14 de pulmón) (*Ministerio de Sanidad - Prensa y comunicación - Notas de Prensa*, s. f.)**.**

II) Mejora el sistema de salud pública y ayuda a reducir costes en gastos asociados a las dolencias de los pacientes que esperan un órgano durante demasiado tiempo: la donación de órganos permite que personas que en otras circunstancias dependerían de máquinas y numerosos medicamentos para poder seguir con vida puedas prescindir de estas, mejorando la calidad de la atención en el sistema nacional de salud y abaratando costes al estado.

Además de la importancia social de la donación y el trasplante de órganos en la sociedad, esta práctica goza del respaldo mayoritario de la misma. Como podemos observar en el artículo *Public Perception of Organ Donation and Transplantation Policies in Southern Spain* que se incluye en esta tesis por compendio de artículos, el 92,6% de los andaluces encuestados manifiesta tener confianza en el sistema de donación y trasplante, con un 53,5% que dice tener total confianza en el sistema (Díaz-Cobacho et al., 2022).

Sin embargo, a pesar del alto apoyo al sistema de donación y trasplantes por parte de los andaluces y de su alta voluntad de donar, un 75,7% de los encuestados se muestra favorable a ser donante, cuando son preguntados por sus conocimientos y actitudes hacia el criterio de muerte encefálica los resultados son muy llamativos: sólo el 18,9% de las personas encuestadas tienen conocimiento de que es legal extraer los órganos en esta situación, mientras que un poco más de la mitad (55,5%) cree que no lo es. Además, en caso de encontrarse en esta situación, solo una de cada cinco

personas (22,3%) estaría de acuerdo en que se le extraigan los órganos (Díaz-Cobacho et al., 2022).

Llegados a este punto, podría parecer que el problema generado por la revolución tecnológica de mediados de los años cincuenta había sido resuelto, ya que con posterioridad a la decisión del Comité Ad Hoc de Harvard no había impedimento legal para tratar a las personas que se encontrasen en muerte encefálica como fallecidos. Sin embargo, tras la implementación de este nuevo criterio fueron numerosas las voces que pusieron en cuestión que la muerte encefálica se asimilase a la muerte cardiorrespiratoria como forma correcta para determinar la muerte humana. De igual forma, muchos expertos e investigadores cuestionaron en sus publicaciones científicas que la muerte encefálica debiera ser considerada como criterio válido para determinar la muerte humana (Brugger, 2016; Byrne & Weaver, 2004; Gervais, 1986; Green & Wikler, 1980; Halevy, 2001; Halevy & Brody, 1993; Potts, 2001; Taylor, 1997; Truog, 1997; Veatch, 1993; Verheijde et al., 2018; Youngner, 1992; Zamperetti et al., 2004). (Además, algunos sectores de la población (principalmente motivados por razones religiosas) se negaron a aceptar la inclusión del nuevo criterio para determinar la muerte, dando lugar a casos muy populares en los que la familia de una persona diagnosticada en muerte encefálica se negaba a aceptar que se declarase como muerto a su ser querido.

El origen del problema de la determinación de la muerte

En la mayoría de los países del mundo se reconoce que la muerte encefálica es equivalente a la muerte cardiorrespiratoria para determinar cuándo un individuo ha fallecido. Por consiguiente, desde 1968, nos encontramos ante una bifurcación de los criterios para determinar cuando la muerte (Capron, 2001).

Desde que se produjo esta bifurcación, ambos criterios han sufrido críticas por diversas razones entre las que se encuentran críticas asociadas a la falta de

irreversibilidad del criterio cardiorrespiratorio (es posible mantener en funcionamiento del sistema circulatorio con la ayuda de una técnica llamada oxigenación por membrana extracorpórea (ECMO) que permite preservar la circulación y respiración de una persona de forma asistida (Torregrosa et al., 2009)) y críticas asociadas a la muerte encefálica que tienen que ver con deficiencias conceptuales, inconsistencias teórico-prácticas y dificultades en la aplicación y asimilación de la misma.

A lo largo de esta introducción nos centraremos en abordar estas problemáticas, poniendo especial énfasis en las objeciones que afronta la determinación de la muerte por criterio neurológico.

Problemas asociados a la muerte encefálica

El 9 de diciembre de 2013 Jahi McMath, una chica de 13 años fue diagnosticada como muerta después de tener una mala recuperación de una operación rutinaria para mejorar el flujo de aire durante el sueño nocturno. Contra todo pronóstico, lo que parecía una intervención rutinaria terminó en una tragedia. Durante el postoperatorio una hemorragia cerebral masiva derivó, por falta de oxígeno en el cerebro, en la muerte encefálica de la joven (Truog, 2018).

Los médicos del hospital infantil de Oakland (California) procedieron a comunicar a la familia el fallecimiento de Jahi y su intención de retirarle el soporte vital que mantenía sus funciones respiratoria y cardíaca artificialmente. Hasta ese momento todo transcurría según lo previsto en los casos de diagnóstico de muerte encefálica. Sin embargo, para sorpresa de los facultativos, la familia de Jahi se negó a aceptar que su hija había fallecido y se oponían a la desconexión de las medidas que, para ella, equivalían a un tratamiento de soporte vital.

Cuando el caso fue dado a conocer por los medios de comunicación, varios médicos y bioéticos consideraron que la familia de Jahi había perdido el juicio. Así, el profesor Laurence McCullough del Center for Medical Ethics and Health Policy del

Baylor College of Medicine de Houston, afirmó públicamente lo siguiente: “Their thinking must be disordered, from a medical point of view... There is a word for this: crazy” (Szabo, 2014). Este tipo de comentarios daban a entender que, para esos expertos, la muerte encefálica no era una cuestión de opinión o creencia y, por tanto, no era objetable. Al discrepar del diagnóstico, la familia no expresaba un desacuerdo legítimo; simplemente se equivocaba.

Sin opciones legales en California para conseguir que Jahi no fuese considerada muerta y se pudiesen mantener las medidas de soporte de las funciones orgánicas de su cuerpo, sus padres iniciaron una campaña para trasladarla del estado de California al de Nueva Jersey, cuya legislación permite que el estatus vital de las personas con diagnóstico de muerte encefálica varíe en función de las creencias religiosas de los pacientes y sus familiares. Ya en Nueva Jersey, la familia cuidó de Jahi durante más de cuatro años hasta que, el 22 de junio de 2018, tras sufrir una insuficiencia hepática, su madre decidió acabar con los esfuerzos para mantener las funciones de su hija activas y pidió a los médicos que no prolongasen los cuidados. Desde el punto de vista jurídico, Jahi, que había recobrado desde su traslado a Nueva Jersey el estatus de paciente, moriría finalmente en 2018 por parada cardio-respiratoria.

Este caso ha provocado que el debate médico y ético sobre la muerte encefálica se haya reactivado en los últimos años, provocando un gran impacto en la comunidad científica por la cantidad de elementos que cuestiona del del *statu quo* sobre el final de la vida. Para el debate sobre la determinación de la muerte, el caso McMath no solo constituye un hito insólito de resucitación legal, al pasar de una declaración de fallecimiento en California a un estatus de viva en Nueva Jersey, sino que ha supuesto un cuestionamiento de la muerte encefálica como criterio válido para determinar la muerte humana[3].

[3] Si bien es poco común que las familias se opongan a la determinación de la muerte por criterio encefálico, cuando lo hacen los pacientes no siempre evolucionan como cabría prever. El caso McMath da buena prueba de ello. Jahi no tuvo un fallo circulatorio inmediato, sino que

El caso de Jahi McMath cuestiona el criterio de la muerte encefálica, y lo hace a dos niveles: en primer lugar, queda bajo sospecha la validez de los *test* o *pruebas diagnósticas* empleados para confirmar el criterio de muerte encefálica (entendiendo como tal la pérdida irreversible del funcionamiento integrado del cerebro como conjunto): El cerebro de Jahi, como dejó patente Alan Shewmon (A. Shewmon, 2018), había mostrado un comportamiento que cuestionaba la especificidad de las pruebas o test diagnósticos que sirven para validar el criterio de pérdida irreversible del funcionamiento del cerebro como conjunto.

> "I am convinced that, from early 2014, Jahi McMath was in a "minimally conscious state." Her case challenges the claimed infallibility of diagnostic criteria for brain death and supports the hypothesis that global ischemic penumbra can mimic both clinical brain death as well as absent blood flow on radionuclide scans (A. Shewmon, 2018)."

En segundo lugar y a un nivel más profundo, cuestiona que el *criterio* neurológico de determinación de la muerte (la muerte encefálica) sea un estándar válido para diagnosticar muerte humana. Es decir, incluso aunque las pruebas y test diagnósticos se hubieran llevado a cabo correctamente, se ponía en cuestión que la pérdida definitiva del funcionamiento de la totalidad del cerebro equivaliese a la muerte humana. En última instancia, lo que estaban haciendo los padres de Jahi era poner en tela de juicio el concepto médico y jurídico de la muerte –la idea de que morir es perder definitivamente la capacidad que el organismo tiene de funcionar de manera integrada– afirmando que su hija estaba viva a pesar del diagnóstico recibido en California. El cambio de estatus vital a su llegada a Nueva Jersey no era sino una forma de validar legalmente su

se mantuvo con vida durante cinco años. Este fenómeno ha sido tratado en la literatura por Shewmon y Machado (Machado, 2021; A. Shewmon, 2018). En ambos casos se ha llegado a la conclusión de que Jahi, en realidad, no estaba en un estado de muerte encefálica, sino que que presentaba otro desorden de conciencia. Shewmon lo llamó Global Ischemic Penumbra y Machado "reponsive unawakefulness syndrome" (RUS).

objeción al estándar clínico y científico de determinar la muerte. ¿Podían estar tan locos cuando la ley les daba la razón?

El caso Jahi fue sorprendente para la opinión pública pero no tanto para los investigadores y expertos sobre las controversias vinculadas a la muerte encefálica desde mediados del siglo XX. En algunas jurisdicciones de Estados Unidos se permite a las familias objetar la determinación de la muerte por criterio encefálico acogiéndose a una garantía legal conocida como “acomodación” (Russell et al., 2019). De esta forma, las familias pueden solicitar que se acomode a sus familiares para que en lugar de ser considerados como muertos puedan seguir poseyendo un estatus de vivos y ser tratados como pacientes en casa o en el hospital.

Este no es el único caso en el que la familia de una persona declarada en muerte encefálica rechaza que esta sea considerada como muerta, ya que desde hace años se han registrado y discutido casos en los que los familiares de un paciente en muerte encefálica se han opuesto al diagnóstico que lo declaraba como muerto y han solicitado que su ser querido siga siendo considerado vivo (A. Shewmon, 1998). La oposición a la determinación de la muerte por criterio neurológico también ha sido reflejada, en la población global y en profesionales de la salud, en numerosas encuestas (Zheng, Sutherland, Hornby, Shemie, et al., 2022; Zheng, Sutherland, Hornby, Wilson, et al., 2022). En estas encuestas podemos distinguir el desconocimiento de la opinión pública sobre el estatus vital legal de las personas diagnosticadas en muerte encefálica, de su rechazo a aceptarla como criterio válido para determinar la muerte.

Datos empíricos sobre el rechazo o la incomprensión de la muerte encefálica

Las controversias asociadas al concepto de muerte encefálica no se limitan a los foros académicos. Si tenemos en cuenta el conocimiento y las creencias de los profesionales de la salud y el público en general en relación con este concepto, observamos que está

lejos de existir un consenso sobre lo que es la muerte encefálica o lo que implica. Tales encuestas muestran tasas considerables de ignorancia de los aspectos legales y de desacuerdo con el criterio de muerte encefálica (Zheng, Sutherland, Hornby, Shemie, et al., 2022; Zheng, Sutherland, Hornby, Wilson, et al., 2022).

Algunas personas son reacias a aceptar la muerte encefálica como equivalente a la muerte. Un estudio reciente en Australia mostró que una proporción sustancial del público general no considera que un paciente descrito como 'muerto por criterio neurológico' esté realmente muerto (29,8%) (Skowronski et al., 2020). Conclusiones similares se pueden obtener de estudios realizados en Estados Unidos (Nair-Collins et al., 2015; Siminoff et al., 2004). En general, una revisión de la literatura que incluyó 43 estudios con 18.603 participantes mostró que "los participantes generalmente no comprenden tres cuestiones clave: (1) hechos biológicos indiscutibles sobre la muerte encefálica, (2) el estatus legal de la muerte encefálica y (3) que los órganos se extraen de pacientes con muerte encefálica mientras sus corazones aún laten y antes de su desconexión de los ventiladores" (Shah et al., 2015).

No es raro que neurólogos y médicos de cuidados críticos se encuentren con familias que se oponen a la suspensión del soporte vital después de la declaración de muerte según criterios neurológicos (Lewis et al., 2016; van Beinum et al., 2021). Esta oposición se ilustra con casos controvertidos, como el caso de Jahi McMath (A. Shewmon, 2018), pero una de las motivaciones más frecuentemente reportadas para que los familiares se opongan a la donación tras muerte encefálica son las dudas sobre la validez del diagnóstico (Lewis & Greer, 2017).

Entre las razones esgrimidas por las familias en contra de la muerte encefálica, algunas son de índole religiosa (Veatch, 2000). Tradiciones culturales y religiosas se han citado para explicar por qué varios países del Este, incluyendo China y Japón, han sido reacios a incorporar la muerte encefálica en la legislación y práctica médica (Lock, 2002; Terunuma & Mathis, 2021; Yang & Miller, 2015).

Puede haber razones no religiosas para rechazar la muerte encefálica entre el público general, entre las que se puede incluir la intuición de que un cuerpo caliente, que respira y cuyo corazón late no es compatible con la muerte, al igual que entre los académicos. Sin embargo, hay falta de datos empíricos para respaldar o refutar esta idea. Además, en aquellas jurisdicciones donde es legal oponerse a la determinación de muerte encefálica solo se consideran motivos religiosos y culturales. Por lo tanto, nos centraremos en la religión y la cultura para describir las objeciones a la muerte encefálica, aunque esto pueda ser solo parte del panorama de motivaciones para oponerse a ese diagnóstico.

En Estados Unidos, una encuesta reciente encontró que en el 20% de los casos con objeciones religiosas, el paciente era budista, hindú, judío o musulmán (Lewis & Kitamura, 2021). Algunos evangélicos protestantes, sintoístas japoneses y nativos americanos también han expresado objeciones religiosas a la determinación de la muerte encefálica (Pope, 2018). Una encuesta a líderes religiosos judíos encontró que, aunque el 97% de los rabinos saben que la muerte encefálica y la muerte cardiopulmonar son legalmente equivalentes, uno de cada cuatro cree que la muerte encefálica no es equivalente a la muerte y casi uno de cada cinco está de acuerdo con la continuación del soporte vital después de la determinación de la muerte encefálica (Lewis, 2019). La oposición a la muerte encefálica y la suspensión del soporte vital es particularmente extendida entre los judíos ultraortodoxos (Gabbay & Fins, 2019). Entre los líderes religiosos musulmanes, aunque la mayoría de los estudiosos y organizaciones médicas aceptan la muerte encefálica como verdadera muerte, el consenso no es unánime (Chamsi-Pasha & Albar, 2017; Miller et al., 2014). Algunos destacados académicos en el debate académico sobre la muerte encefálica incluso afirman que la imposición legal de una determinación no consensuada de la muerte encefálica viola los derechos religiosos de los musulmanes observantes (Rady & Verheijde, 2018).

Además, también hay numerosas encuestas en las que, al preguntar a los profesionales de la salud sobre la determinación de la muerte, muestran ignorancia o rechazo. Una de estas encuestas se puede encontrar en el artículo *Death Determination and Clinicians' Epistemic Authority*, que está incluido en esta tesis por compendio de artículos. En este artículo se muestra que, aunque la mayoría de los profesionales de la salud involucrados en el cuidado de personas con muerte encefálica creen que la muerte encefálica es un estándar confiable para la determinación de la muerte, la mitad de ellos (49%) cree que la ventilación mecánica no debería interrumpirse en contra de los deseos familiares o de las preferencias expresadas anteriormente por el fallecido. Muchos profesionales (41%) estarían de acuerdo en que la muerte no debería declararse en contra de sus deseos (Rodríguez-Arias et al., 2020).

El debate académico

Desde la introducción y posterior aceptación del criterio de muerte encefálica tuvo lugar una serie de controversias en la literatura médica y bioética que aún se mantienen abierta (Hastings Center Report, 2018). *Grosso modo*, las controversias relativas a la determinación de la muerte se pueden agrupar en dos grupos: aquellas que tienen su origen en una discrepancia científica y aquellas que tienen su origen en discrepancias morales o políticas. Las primeras, hacen referencia a los problemas asociados a la justificación científica de la muerte encefálica. La segunda hace referencia a las decisiones sociales que se toman al respecto de cómo determinar la muerte, se tenga en cuenta o no la dimensión biológica de la misma.

Discrepancias científicas

Las discrepancias científicas en la determinación de la muerte suelen estar centradas en señalar las incongruencias que el criterio de muerte encefálica presenta desde distintas perspectivas biológicas o médicas. Si bien algunos autores han defendido que

la muerte es la pérdida del funcionamiento integrado del organismo en su conjunto y que esta se produce cuando cesan de forma irreversible todas las funciones cerebrales de un individuo (Bernat, 2018), autores como Shewmon han cuestionado que, de hecho, la muerte encefálica suponga el cese irreversible de todas las funciones vitales (A. Shewmon, 2001). Por otro lado, hay quien rechaza que la muerte se produzca cuando hay un fallo en las funciones cerebrales y que esta sólo se da cuando hay un cese irreversible de la circulación (Jonas, 1974) Nair-Collins, por su parte, defiende que la muerte se produce cuando la entropía excede a la homeostasis (Nair-Collins, 2018). Por otro lado, Robert M. Veatch ha defendido que la muerte ya ocurre cuando se produce un fallo en las funciones corticales del cerebro, afectando a la capacidad del individuo de tener conciencia y cognición (Veatch, 1975). Todos estos criterios tienen una base científica que las sostiene, y, por lo tanto, discrepan de la actual forma de determinar la muerte desde una posición biológica.

Discrepancias morales o políticas

Por su parte, las discrepancias morales o políticas se basan fundamentalmente en la idea de que, al margen de las discrepancias científicas, hay razones morales, religiosas, culturales y sociales, que deberían permitir considerar a una persona como viva a pesar de cumplir el criterio de muerte encefálica. Ejemplos de este tipo de discrepancias son la negativa de los judíos ortodoxos a aceptar el criterio de muerte encefálica por razones bíblicas (Zeiler, 2009) la negativa de algunos cristianos fundamentalistas por la misma razón, o la implementación en Japón de un sistema pluralista dual para la determinación de que permite la muerte (fundamentado también en razones religiosas) que permite a una persona decidir si quiere ser considerado como muerto o como vivo en el caso de encontrarse en un estado de muerte encefálica (Akabayashi et al., 2018; Lock, 2002; Morioka, 2001).

Los defensores de que la determinación de la muerte no debería ser únicamente una decisión tomada por profesionales sanitarios no necesariamente argumentan que la muerte no sea una cuestión biológica. Por el contrario, muchos de ellos defienden que, si bien la muerte tiene un pie en la biología, también tiene otro en la sociedad (Youngner et al., 1999). Por lo tanto, si bien la medicina tiene autoridad para diagnosticar cuando el cerebro y el tronco encefálico de una persona se encuentran totalmente destruidos, esto no significa, necesariamente, que esa persona deba ser considerada como muerta.

¿Una alternativa? La posibilidad de elegir cuándo ser considerado muerto

A lo largo de esta introducción he tratado de mostrar las razones, tanto empíricas como teóricas que explican por qué la cuestión sobre cómo, más de cincuenta años después de la creación de la bifurcación en los criterios para determinar la muerte, decidir y justificar cuándo alguien ha muerto sigue siendo un problema práctico y teórico.

A continuación, voy a tratar de indagar en una propuesta alternativa que pueda suponer solución a esos problemas. Mi propuesta de un *pluralismo legal* en la determinación de la muerte distinguirá dos formas: una perspectiva irrestricta o pluralismo fuerte, que pone en valor la decisión de una persona sin tener en cuenta la variable científica, y otra perspectiva restringida o pluralismo débil –que yo mismo preconizaré– que sí tiene en consideración el estado actual de los consensos científicos.

Hipótesis y justificación

Esta tesis doctoral tiene dos objetivos fundamentales. Por un lado, explorar y desarrollar teóricamente el pluralismo como aproximación ética y jurídicamente defendible y alternativa teórica de la bifurcación entre muerte cardiorrespiratoria y muerte encefálica. Por otra parte, se busca profundizar en la posibilidad práctica de la implementación de

este pluralismo. Para ello, considero necesario examinar el nivel de conocimiento entre la población lega, así como su predisposición para aceptar o tolerar una posible implementación dentro del sistema de salud de una cláusula que permitiese a cada persona a título individual escoger una definición de muerte. De esta forma, las hipótesis son las siguientes:

A nivel teórico

1. Que las definiciones de muerte hasta ahora aceptadas por la comunidad científica son arbitrarias.
2. Que estas definiciones carecen de la coherencia necesaria para poderse defender de forma inapelable (fallos en las pruebas diagnósticas).
3. Que es posible justificar teóricamente una postura pluralista en relación con la muerte, dando cabida a predicados ajenos a la ciencia y la medicina.

A nivel práctico

1. Que en general existe un alto porcentaje de población que no conoce el modelo oficial empleado para declarar a un paciente como muerto en España.
2. Que, aun conociendo el modelo oficial, muchas personas presentan dudas cuando se les presenta un caso concreto.
4. Que una parte de la población no comparte (por motivos diversos) los criterios para declarar a una persona en muerte encefálica y, en consecuencia, consideraría la posibilidad de aplicar un modelo pluralista.
5. Que una parte de la población, aun aceptando como válidos los criterios para declarar la muerte, estaría dispuesta a aceptar también que se aplicase un modelo pluralista.

Justificación teórica

El pluralismo con respecto a la determinación de la muerte es una propuesta que, a pesar de su potencial relevancia práctica, no ha sido excesivamente desarrollado de

forma teórica por los expertos en bioética. Hasta ahora, sólo algunos autores han tratado esta cuestión, especialmente en relación con las legislaciones del estado de Nueva Jersey (Estados Unidos) y Japón (Lock, 2002; *New Jersey Declaration of Death Act*, 2013; Pope, 2015). En esta tesis he pretendido profundizar en los estudios bioéticos sobre el pluralismo en torno a la determinación de la muerte, para así poder esgrimir con mayor autoridad argumentos profusamente desarrollados que se contraponen a los que se manejan desde aquellos que defienden el modelo oficial (bifurcación entre muerte cardiorrespiratoria y muerte encefálica) para enfrentarse a la muerte. De ser así, podríamos preguntarnos si sería conveniente introducir otros criterios legales, además de los neurológicos y cardiorrespiratorios. Además, podríamos preguntarnos hasta qué punto podría extenderse el concepto de autonomía del paciente o el de libertad religiosa como justificación para argumentar excepciones a la actual norma médica.

Dicho esto, aparte de la justificación teórica, es necesario considerar las posibles consecuencias de un reconocimiento y de una posible ampliación del pluralismo, bien sea con la introducción de nuevos criterios diagnósticos o con el derecho de las personas a elegir su propio criterio. ¿Qué consecuencias positivas y negativas podría tener cada una de estas opciones? Por ejemplo, podemos preguntarnos qué impacto tendría para el sistema de trasplantes. Por un lado, podría acrecentar las dudas en la población general y dificultar la obtención de órganos a partir de individuos en muerte encefálica. Por otro, podría incrementar la confianza al asegurar a las familias que se respetarán sus creencias. También podría permitir ampliar los criterios diagnósticos a otro tipo de pacientes, como los que se encuentran en estado vegetativo persistente, siempre y cuando los individuos y sus familias compartan una definición psicosocial (en términos personales) de la muerte. Las consecuencias positivas o negativas de la implantación de un modelo pluralista también dependen de la aceptación que pudiera tener por parte de los profesionales sanitarios. Para averiguar qué tipo de respuesta podría tener, es necesario realizar exploraciones de tipo empírico.

Justificación empírica.

Más allá de la justificación teórica del pluralismo (fundamental también para abarcar toda la problemática en conjunto), es importante conocer la opinión de las personas involucradas. Si bien es cierto que un primer paso para sentar las bases de un posible pluralismo consistiría en establecer un marco teórico de referencia, este tendría poco recorrido práctico si la sociedad rechazara mayoritariamente la puesta en práctica de este. Para que una propuesta, además de teóricamente sólida sea realizable es necesario sopesar y anticipar la reacción social que puede generar (Lawford-Smith, 2012). Esta actividad encuentra un sustento empírico en los trabajos realizados por expertos de reconocido prestigio en la determinación y definición de la muerte encefálica en otros países que, con algunos objetivos comunes (lograr discernir, de igual forma, cuestiones relacionadas con el conocimiento y las actitudes de los profesionales involucrados en la toma de decisiones y la puesta en práctica de las mismas en relación con la muerte encefálica), han realizado encuestas a legos y profesionales de distintos países. Los estudios realizados por estos expertos arrojan datos valiosos para mi investigación, como por ejemplo que, de forma general, los profesionales sanitarios coinciden en que una persona que se encuentre en muerte encefálica está, efectivamente, muerta (Zheng, Sutherland, Hornby, Wilson, et al., 2022). O que, por el contrario, la población lega no llega a esa conclusión (Siminoff et al., 2004). En este trabajo se propone una encuesta en la que participó una parte representativa de la población y varios experimentos éticos. Esto me ha permitido explorar, por un lado, los conocimientos y actitudes que poseen en lo relativo a estas cuestiones y, por otro, sus creencias y opiniones.

Objetivos

Objetivo principal

El propósito de esta investigación es actualizar el debate sobre la muerte en bioética desde un modelo pluralista que permita a la ciudadanía escoger entre distintas definiciones de muerte.

Objetivos específicos

1. Explorar si es justificable extender el pluralismo que hasta ahora se ha tratado en la literatura bioética en dos sentidos: Por un lado, con la introducción de nuevos criterios diagnósticos, como los propuestos por Robert Veatch, Alan Shewmon y otros. Por otro, con la introducción de una "cláusula de conciencia" o de un derecho a elegir criterio, como ocurre en EE. UU. y Japón.
2. Evaluar el conocimiento y las actitudes de la población con respecto a diferentes definiciones y criterios de muerte, y examinar su reacción ante diferentes opciones pluralistas.
3. Explorar las implicaciones teórico-prácticas de una posible inclusión de la objeción de conciencia en relación con la determinación de la muerte.

Metodología

Para la elaboración de este proyecto se realizará primero una revisión bibliográfica sobre pluralismo y muerte, tanto desde una perspectiva teórica como empírica. Luego, se llevan a cabo de manera paralela dos investigaciones. Por un lado, se investiga la fundamentación teórica y posible justificación bioética del pluralismo con respecto a la determinación de la muerte. Por otro, se realiza una batería de estudios empíricos orientados a conocer los conocimientos de legos y profesionales sobre los criterios

legalmente aceptados para determinar la muerte, así como sus opiniones y actitudes con respecto a diferentes opciones pluralistas.

Hallazgos

Propuestas acerca de la libertad en la elección sobre la determinación de la muerte: una taxonomía

A lo largo de la introducción se ha mostrado cómo la existencia de discrepancias tanto en el seno de la comunidad científica como en la población general han suscitado una variedad de propuestas sobre cómo y cuándo determinar que una persona está muerta. En el artículo *Death Pluralism: A Proposal* (Díaz-Cobacho et al., 2023) se estructuran estas propuestas en cuatro categorías.

Se distingue, por un lado, entre propuestas *pluralistas* y *monistas*, dependiendo de que permitan o no la elección entre criterios de muerte. Por otro, se distingue entre modelos *fuertes* y *débiles*, dependiendo del grado de radicalidad de las propuestas. Este planteamiento da lugar a cuatro categorías: monismo fuerte, monismo débil, pluralismo débil y pluralismo fuerte (Díaz-Cobacho et al., 2023).

Los monismos comparten la idea de que la muerte tiene una base biológica y que, además, se conoce qué criterios son los correctos para determinarla.

El *monismo fuerte* se corresponde con el *statu quo* legal en la mayoría de las jurisdicciones: sólo existe una forma correcta de considerar a las personas que cumplen los criterios de muerte encefálica, esto es, como cadáveres. Quien discrepa comete un error y siempre debe prevalecer ese criterio legal. El fundamento teórico del monismo fuerte es que la asimilación legal de la muerte encefálica a la muerte reposa en una verdad científica: que las personas en muerte encefálica han perdido de manera irreversible el funcionamiento integrado del organismo como conjunto (o definición biológica alternativa de la muerte).

El monismo fuerte y el *monismo débil* comparten entre sí la asunción de que el criterio de muerte encefálica tiene un fundamento científico, y que quien discrepa sobre la ecuación *muerte encefálica* = *muerte* se equivoca. La novedad que aporta el monismo débil es solo pragmática, no teórica: a pesar de estar equivocadas, las personas que rechazan el criterio deberían –para evitar situaciones disruptivas en la clínica– tener la opción de acogerse a acomodaciones excepcionales, entendiendo acomodación como la posibilidad de que un individuo siga siendo considerado vivo a pesar de haber sido *correctamente* diagnosticado como muerto por criterio encefálico.

Los modelos pluralistas, por su parte, comparten entre sí –y pueden distinguirse de los monistas por– la premisa de que permitir a la ciudadanía elegir entre varios criterios de acuerdo con sus preferencias tiene un fundamento teórico. Lo que diferencia a ambas formas de pluralismo es la mayor o menor restricción que plantean a la hora de establecer las razones que se pueden legítimamente invocar para discrepar de que la muerte encefálica equivale a la muerte.

Dentro de los modelos pluralistas, he podido identificar dos variantes, dependiendo de si la capacidad de elección debería ejercerse individual (*pluralismo individual*) o colectivamente (*pluralismo comunitario*). Ambas propuestas han sido defendidas en relación con el pluralismo fuerte. Sin embargo, pueden aplicarse también a la versión débil del pluralismo, dado que la discusión sobre quién puede ejercer ese pluralismo no tiene que ver con el fundamento ontológico de la que se parte.

Por un lado, autores como Robert M. Veatch han defendido la libertad de elección individual en el debate sobre la determinación de la muerte (Veatch, 1999). Veatch acuñó el término *cláusula de conciencia* (*conscience clause*) en referencia a la posibilidad de que una persona pueda decidir en qué momento querría ser considerada

muerta dentro de un rango acotado de posibilidades. Según Veatch, restringido al criterio cardiorrespiratorio, el neurológico o el cortical[4].

Esta propuesta de Veatch, defiende la libertad de elección de los individuos entre distintos criterios para determinar la muerte por razones no necesariamente científicas (Veatch & Ross, 2016). En esta misma línea, otros autores como Alireza Bagheri, John Lachs, Vilius Dranseika o Ivars Neiders (Bagheri, 2007; Dranseika & Neiders, 2018; Lachs, 1988) han defendido este tipo de propuesta pluralista basadas en la elección individual. En el caso de Bagheri, y a diferencia de Veatch, este limita el rango de elección sobre los criterios para elegir al criterio cardiorrespiratorio y al neurológico. En su opinión, otras opciones como el criterio cortical deben ser descartadas por ser raras (*bizarre*) y socialmente no aceptadas (Bagheri, 2007).

Por otro lado, otros autores han defendido que el pluralismo puede articularse de forma política teniendo en cuenta razones científicas, sensibilidades religiosas o cuestiones culturales de una parte de la sociedad. Estos autores afirman que el pluralismo debe abordarse desde una perspectiva comunitaria y no individual.

En el contexto de Japón, donde la religión mayoritaria es el sintoísmo, Masahiro Morioka muestra que los conceptos de la muerte están arraigados en la cultura (Morioka, 2001), otras autoras como Kartina A. Choong y Mohamed Rady han manifestado la necesidad de un enfoque sensible y ético para tratar los conflictos entre perspectivas seculares y religiosas sobre la muerte, proponiendo un debate parlamentario exhaustivo sobre el tema en el Reino Unido (Choong, 2013; Choong & Rady, 2018). En esta línea, Marko Stamenkovic (Stamenkovic, 2014) también sugiere que la pluralidad de posturas sobre la muerte abre un espacio político para la negociación y el discurso democrático.

Algunos autores hacen referencia al concepto de consenso y pluralismo de John Rawls (Rawls, 1971, pp. 110-112). Este término enfatiza la importancia de encontrar

[4] La elección de criterios, según Veatch, obedece al consenso científico que existe en que esos terminos son “razonables” (Veatch & Ross, 2016)

puntos en común entre individuos con diversas y a veces opuestas doctrinas comprehensivas. Se alinea con el objetivo más amplio del pluralismo en la determinación de la muerte, ya que destaca la necesidad de acomodar diversas perspectivas culturales, religiosas y filosóficas dentro de un marco democrático. Entre estos autores, podemos mencionar a Kristin Zeiler o a Christos Lazaridis (Lazaridis, 2021, 2022; Zeiler, 2009).

El *pluralismo débil* –la propuesta que se defiende en esta tesis– acota la libertad de elección a los criterios que tengan un fundamento biológico. No se pone en duda, por lo tanto, la base biológica de toda determinación de la muerte: la vida es un fenómeno que pertenece al ámbito de la biología y no un mero constructo social, pero existen discrepancias y desacuerdos científicos sobre qué criterios y qué pruebas diagnósticas son los adecuados para determinarla.

En el caso del *pluralismo fuerte*, por el contrario, no limita la elección a las opciones con algún refrendo científico. La muerte no se concibe como un fenómeno fundamentalmente biológico, y, por lo tanto, se da igual prioridad a otras definiciones religiosas, filosóficas o culturales.

En el siguiente apartado desarrollaré cada una de las cuatro propuestas enunciadas

Monismo fuerte

El monismo fuerte parte de la idea de que los criterios neurológico y cardiorrespiratorio para determinar la muerte se basan en hechos científicos (biológicos) objetivos e incuestionables, que además tienen una base ontológica clara y que se traducen en una articulación jurídica en la que la muerte sólo puede determinarse de una manera (Greer et al., 2020). Así, estaríamos ante un monismo a todos los niveles: a nivel ontológico (ya que la muerte es un fenómeno biológico), a nivel conceptual (porque sabemos definirla),

y a nivel jurídico (ya que sólo se acepta una forma de determinar la muerte, representada por dos criterios: neurológico y cardiorrespiratorio).

Límites del monismo fuerte

La visión monista fuerte suele adoptar la forma del monismo biológico: la muerte sólo puede predicarse de los organismos porque la vida y la muerte son fenómenos biológicos. Según este punto de vista, la pérdida irreversible de la función de órganos vitales, como el cerebro o el corazón, significa la muerte. La implicación es que los científicos tienen la autoridad no sólo para confirmar la pérdida de función de un órgano, sino también para interpretar esa observación en términos de vida y muerte y para describir que el acontecimiento de la muerte (es decir, la fisiología de la muerte) el hecho de que un órgano (por ejemplo, el cerebro o el corazón) haya dejado de funcionar irreversiblemente se trata como un hecho inobjetable. Según la versión más frecuente del monismo fuerte, el cese de un órgano implica la muerte en la medida en que el órgano (cerebro, corazón) es necesario para la integración del organismo en su conjunto. Cuando la muerte de un órgano vital es total e irreversible, la muerte es incuestionable. Sin embargo, es importante señalar que los expertos que coinciden en la idea de que la muerte es un fenómeno biológico y que comparten la definición de la muerte como pérdida de integración pueden seguir discrepando sobre el estado vital de esos individuos. Así, los desacuerdos dentro de la postura del monismo biológico fuerte pueden derivarse de: (a) la creencia de que las pruebas estándar para evaluar la pérdida de función de un órgano vital no son fiables; (b) la creencia de que el órgano en cuestión -por ejemplo, el cerebro- no es esencial para la integración, lo que significa que su pérdida funcional no implicaría necesariamente la muerte (entendida biológicamente como pérdida de integración).

Pero no sólo hay desacuerdos conceptuales sobre la validez de la postura del monismo, también los hay ontológicos. Este tipo de desacuerdos difieren de la posición

del monismo fuerte en cuestiones relacionadas con la naturaleza del fenómeno y se pueden dividir principalmente en dos categorías: (a) en primer lugar, están los que defienden que la muerte no es un fenómeno estrictamente biológico, sino más bien un fenómeno híbrido, con un pie en la biología y otro en la cultura (Youngner et al., 1999); (b) en segundo lugar, están los que defienden que la muerte es una construcción social (Veatch, 1999) y que, por tanto, la ciencia no tiene especial relevancia para la toma de decisiones relacionadas con ella.

Monismo débil (acomodaciones)

En enero de 2019, la Academia Americana de Neurología publicó una declaración para proporcionar orientación a sus miembros sobre cómo responder a las objeciones a la determinación de la muerte por criterios neurológicos que se llamó “Brain death, the determination of brain death, and member guidance for brain death accommodation requests” (Russell et al., 2019). Lo que proponía la AAN era implementar el uso de las acomodaciones por todo el país (Estados Unidos) aludiendo, entre otras cosas, al respeto de las creencias religiosas y culturales de los pacientes o sus familiares.

Las acomodaciones han sido una de las propuestas que más éxito han tenido para conciliar las negativas de los familiares de las personas diagnosticadas en muerte encefálica que estas sean declaradas como muertas con el correcto funcionamiento de la práctica médica (en relación con la extracción de órganos y el uso de materiales y espacios limitados en el hospital). Estas acomodaciones consisten en un planteamiento legal según el cual una persona que ha sido médica y legalmente declarada como muerte puede acogerse a una exención de la declaración de muerte y seguir siendo considerada, en términos legales, viva.

Dicho de otra forma, la AAN no reconoce la legitimidad de los argumentos ofrecidos por aquellos que quieren objetar a la determinación de la muerte por criterio neurológico, sino que a pesar de pensar que se equivocan en su razonamiento, están dispuestos a

respetar la decisión en aras de no dañar sus intereses. Aunque la AAN respalda firmemente la opinión de que la muerte encefálica es equivalente a la muerte humana y que no existe una obligación ética de proporcionar tratamiento médico a una persona fallecida, sugiere que puede ser necesario cierto grado de acomodación basado en "consideraciones sociales, morales, culturales y religiosas razonables y sinceras" por razones pragmáticas.

En la actualidad, en Estados Unidos hay legislación respecto a las acomodaciones en los estados de California, Illinois, Nueva Jersey y Nueva York. Aunque existe jurisprudencia en otros estados como Texas (Pope, 2015).

A nivel teórico, las acomodaciones han sido defendidas por varios académicos como una alternativa para respetar la voluntad de las personas diagnosticadas en muerte encefálica o sus familiares (Campbell, 2018; Gabbay & Fins, 2019; Johnson, 2016) a no ser considerados como muertos sin tener que aceptar que se genere una equivalencia entre los criterios actuales para determinar la muerte y otros criterios basados en consideraciones científicas, religiosas, morales o culturales.

Objeciones al monismo débil

Creo que las acomodaciones, tal y como las plantea la Academia Americana de Neurología pueden ser criticadas por varios motivos: I) la razón principal que me lleva a rechazar esta solución surge de las motivaciones para solicitar una acomodación que desde la AAN sugieren. Como podemos observar en la declaración de la Academia, sólo se tienen en cuenta excepciones que se basen en conflictos religiosos o culturales (Russell et al., 2019). Esto es problemático en tanto que elimina la posibilidad de oponerse a ser declarado como muerto por criterio encefálico con base en razones puramente biofilosóficas (D. A. Shewmon, 2021). II) Otra razón que me hace oponerme a las acomodaciones tal y como las plantea la AAN tiene que ver con el engañoso panorama que dibuja esta declaración en lo relativo al conocimiento y las actitudes de

los profesionales sanitarios hacia la determinación de la muerte por criterio neurológico (D. A. Shewmon, 2021). Si bien es cierto que un gran número de profesionales sanitarios apoyan el criterio neurológico para la determinación de la muerte, la declaración de la AAN es engañosa.

En primer lugar, algunos estudios sugieren que el grado de aceptación de la muerte encefálica entre neurólogos es menor: solo alrededor de un tercio cree realmente que la muerte encefálica es una muerte biológica (Joffe et al., 2012).

La mayoría de los neurólogos encuestados afirman que una persona fallece cuando se produce una pérdida irreversible de la conciencia (esto es equivalente a la muerte cortical, Higher Brain Death) (Joffe et al., 2012). Además, la mayoría de los neurólogos no entienden (en el mejor de los casos) o están en desacuerdo (en el peor de los casos) con que ciertas funciones cerebrales puedan permanecer activas en pacientes diagnosticados como muertos mediante test diseñados para determinar la muerte encefálica (Joffe et al., 2012).

Pluralismo débil

El pluralismo débil es una propuesta teórica hasta ahora muy poco desarrollada que he tratado de formular, con la colaboración de David Rodríguez-Arias y Alberto Molina Pérez a lo largo de esta tesis doctoral (Díaz-Cobacho et al., 2023).

Como hemos podido observar en los apartados anteriores, las propuestas pluralistas hasta ahora presentadas parten fundamentalmente de dos concepciones opuestas: por un lado, algunos autores defienden que la muerte es un fenómeno social, cultural o religioso (Bagheri, 2007; Veatch, 1999) y que debería ser la sociedad la que acuerde cuándo podemos definir a una persona como viva o muerta. Por otro lado, desde la Academia Americana de Neurología se ha defendido que, si bien la muerte es una cuestión biológica que puede ser claramente determinada por los profesionales sanitarios, se debería permitir a la gente elegir, por cuestiones religiosas y culturales y

de forma excepcional, cuando quieren ser considerados como muertos por una cuestión de orden social (Russell et al., 2019).

Nuestra concepción de la muerte parte de la premisa de que, si bien la muerte es un hecho biológico, los criterios para determinar cuando esta se produce deben redefinirse a la luz del intenso debate biofilosófico que existe al respecto (D. A. Shewmon, 2021). Si partimos de nuestra definición de lo que significa estar muerto, la solución para poner fin a la controversia en la determinación de la muerte implica, necesariamente, la búsqueda de un consenso normativo sobre qué criterios son válidos para determinar la muerte humana.

Como he mostrado en la introducción, muchos bioéticos han criticado, desde diferentes enfoques, que la muerte encefálica sea un criterio válido para determinar la muerte humana. Algunos de estos expertos han propuesto otras alternativas para matizar o cambiar el criterio de muerte encefálica. Alan Shewmon enumeró algunas de las principales alternativas para la determinación de la muerte encefálica en un reciente artículo (D. A. Shewmon, 2021).

Nuestra propuesta, sin embargo, no parte de la premisa de resolver el problema en sí mismo, sino que tiene como objetivo permitir que los desacuerdos fundamentados no sean desestimados mientras dure esta controversia. Con este fin, creemos que articular un pluralismo débil es la mejor solución teórica y práctica.

El pluralismo débil se sostiene sobre el siguiente argumento: existe desacuerdo entre los expertos sobre cuál es el mejor criterio biológico para determinar la muerte, y, además, la elección de lo que significa estar muerto no solo implica cuestiones fácticas. Dado que llegar a un consenso sobre cuáles son las definiciones biológicas normativamente mediadas más apropiadas es complejo, debemos permitir que las personas que tienen desacuerdos legítimos con el modelo actual para determinar la muerte objeten ser tratadas bajo ese parámetro mientras la controversia siga abierta.

Para lograr esto, proponemos utilizar el pluralismo débil: un concepto que otorga capacidad práctica a estas personas para elegir los criterios (cardiorrespiratorios o neurológicos) por los cuales desean ser consideradas muertas. Así, una persona que cree que la forma en que pueden ser determinadas como muertas no es realmente la muerte, ya que basan su razonamiento en la idea de que el cerebro no es necesariamente el órgano integrador de nuestro cuerpo, podría considerarse viva hasta que experimente una muerte cardiorrespiratoria.

A primera vista, esta propuesta no parece ser muy diferente de algunos pluralismos fuertes o de las acomodaciones. Sin embargo, la principal diferencia radica no en cómo se aplicaría el pluralismo débil, sino en su fundamentación y justificación. Como hemos señalado anteriormente, la justificación del pluralismo débil surge de la necesidad de dar una respuesta global a un problema a nivel ontológico, conceptual, epistémico y legal. Las personas deben tener el derecho de decidir por qué criterios quieren ser declaradas muertas porque, de hecho, no hay consenso experto sobre si una persona en estado de muerte encefálica está muerta o no (Byrne & Weaver, 2004; Potts, 2001; Truog, 1997).

Objeciones al pluralismo débil

El pluralismo débil puede recibir, fundamentalmente, tres objeciones: dos comunes a todas las propuestas pluralistas y una específicamente relacionada con el pluralismo débil.

La principal objeción que puede se puede le puede plantear al pluralismo débil radica en la temporalidad de este. Si los desacuerdos sobre cuándo una persona está o no muerta se resuelven (en una deliberación colectiva mediada por la biología), se debería utilizar la definición que se haya acordado por defecto, permitiendo que las personas que aún no estén de acuerdo con esa decisión se acojan a una especie de acomodación en el que puedan ser tratadas como vivas incluso si, de facto, la sociedad

no las considera como tales. Los límites de estas adaptaciones estarían mediados, nuevamente, por la biología y por el rango de desacuerdo que los expertos consideren razonable.

Otra crítica que se puede hacer al pluralismo (en este caso de forma genérica) es que sería difícil llevar a la práctica esta propuesta teórica. Considero, sin embargo, que esto no sería complicado por dos razones: por un lado, se ha puesto de manifiesto que en ciertas comunidades ya existe, de facto, un sistema pluralista dual, lo que invalida las tesis que sugieren que sería imposible o muy complicado aplicar este tipo de propuestas. Por otro lado, el mero hecho de que la teoría esté formulada en términos políticos implica que en un país democrático no deberían existir inconvenientes insalvables para llevar a cabo una deliberación y posterior puesta en práctica de una política pluralista sobre la muerte.

La última crítica que se le puede realizar al pluralismo (también de forma genérica) tiene que ver con las consecuencias mundanas de este, con las que quiero hacer referencia a todas aquellas cuestiones prácticas menores que implica la implementación de un sistema pluralista en la determinación de la muerte: seguros de vida, pensiones, herencias, etcétera, son sin duda una preocupación para los allegados al individuo que se encuentre en un estado incierto.

Sin embargo, al igual que ocurre en el caso de los desaparecidos en alta mar, existen herramientas jurídicas para establecer ficciones legales que permita poner solución a estos pequeños inconvenientes (Shah et al., 2011; Shah & Miller, 2010).

Por estas razones, creo que las acomodaciones tal y como se han planteado hasta ahora tienen grandes deficiencias teóricas y prácticas.

Pluralismo fuerte

El pluralismo fuerte en la determinación de la muerte surge como alternativa a los dos criterios actualmente aceptados para determinar cuándo alguien ha fallecido. Los

primeros países en legalizar este sistema fueron Japón y ciertos estados de Estados Unidos. En ambos países, el peso de las creencias religiosas ha sido clave para poner en marcha este tipo de medidas (Morioka, 2001). La respuesta por parte de las autoridades de estos países ha sido la de buscar una postura que permita salvaguardar, por un lado, los criterios para la determinación de la muerte propuestos por la comunidad médica y hasta ahora aceptados en casi todos los países, y, por otro lado, las voces de aquellas personas que no comparten esos criterios. Esta propuesta, por supuesto, no impone ningún criterio de muerte sobre otro a los ciudadanos, que siempre pueden elegir el que más se ajuste con sus convicciones.

Esta tarea se ha llevado a cabo a través de la implantación de protocolos y regulaciones sobre determinación de la muerte que permiten a quienes se encuentran en muerte encefálica decidir si serán considerados como vivos o muertos. Esta política contrasta con la de la mayoría de los países, que no permiten elegir bajo qué criterio una persona puede ser considerada muerta.

Las razones que se pueden aducir para defender esta postura son varias, y se agrupan fundamentalmente en dos: por un lado, algunos autores han argüido que los individuos deberían tener el derecho individual de elegir, en función de su modo de vida y respeto a su autonomía, qué criterio de muerte quieren que se les aplique (pluralismo individualista) (Veatch, 1999; Veatch & Ross, 2016). Por otro lado, se ha argumentado que el respeto a sociedades o minorías étnicas, culturales o religiosas que no comparten la visión de la muerte que se preconiza desde la biología o la medicina, exige respetar el criterio por el que deberían ser consideradas muertas (pluralismo comunitario) (Zeiler, 2009). Las especificades de ambas formas de pluralismo –individual y comunitario– se desarrollan después.

Algunas de las comunidades que se oponen a asimilar la muerte encefálica a la muerte son los judíos ortodoxos, ciertas agrupaciones de cristianos fundamentalistas, algunas comunidades de indios americanos, y algunas personas que profesan el

budismo y el sintoísmo (Grodin, 1994; Kobus et al., 2014; Skowronski et al., 2020). Las razones teológicas o antropológicas de su rechazo a la muerte encefálica varían, pero la mayoría de ellas coinciden en un rechazo a la suficiencia del criterio neurológico para determinar la muerte, exigiendo que se produzca un paro cardiorrespiratorio.

Uno de los primeros casos en el que se pudieron apreciar las tensiones entre los valores religiosos y el criterio de los profesionales fue el de Aaron “Ari” Halberstam. En marzo de 1994, Halberstam y una docena de compañeros fueron tiroteados a la entrada del Puente de Brooklyn desde un sedán conducido por un solo atacante equipado con una ametralladora, dos pistolas de 9 mm y una escopeta. Durante una ráfaga de disparos, el lado del pasajero de la camioneta fue alcanzado, tres de los estudiantes resultaron heridos y las ventanas traseras estallaron. De los catorce estudiantes que iban en la camioneta, Ari Halberstam y Nachum Sosonkin fueron heridos en la cabeza. Otros dos estudiantes, Yaakov Schapiro y Levi Wilhelm, sufrieron heridas en el pecho y el abdomen. Todas las víctimas fueron llevadas al Hospital St. Vincent, donde Halberstam, de 15 años, fue diagnosticado en muerte encefálica.

Su familia, basándose en los consejos de su rabino, no aceptaron que Ari fuese considerado muerto mientras un respirador lo pudiese mantener respirando. Apelaban a un pasaje del Génesis (7:22) en el que se lee: "*En cuyas fosas nasales estaba el aliento del espíritu de vida*." (*Bible Gateway Passage*, s. f.). A pesar de mantener la respiración asistida, Aaron falleció cinco días después del tiroteo[5]. En realidad, Aaron fue mantenido con vida única y exclusivamente por la voluntad de los profesionales sanitarios, ya que no sería hasta años después cuando el Estado de Nueva York aceptaría las acomodaciones para este tipo de casos.

El caso Halberstam, al igual que el caso McMath, nos permiten entender la magnitud del problema que surge del conflicto entre los valores religiosas y la norma. El

[5] Esta circunstancia quiso ser utilizada por el abogado del atacante para atenuar la sentencia, de homicidio a homicidio frustrado

pluralismo fuerte surge precisamente para intentar distender esta tensión a través de una propuesta regulativa que permite a las personas que tengan reticencias hacia la muerte encefálica no tener que ser sometidos a ese criterio.

Objeciones al pluralismo fuerte

El pluralismo fuerte puede ser criticado principalmente por tres razones. Dos de ellas son comunes al pluralismo débil y las trataremos más adelante. La tercera, específica del pluralismo fuerte, tiene que ver con los límites del pluralismo.

Se podría pensar que, si se diera el caso de un pluralismo fuerte o irrestricto, una sociedad podría acabar considerando a individuos claramente vivos (por ejemplo, un bebé recién nacido sano) como muertos o, a la inversa, a cadáveres en descomposición como vivos. Una excesiva libertad de elección generaría caos, y podría ser la antesala de una pendiente resbaladiza (Molina et al., 2008) que se manifestase en casos como los anteriormente mencionados. Veatch y Ross, en su libro *Defining Death: The Case for Choice* (Veatch & Ross, 2016), ya previeron que este argumento podría ser usado contra de su propuesta. Para rebatirlo, argumentaron que una posible solución a este problema sería la de acordar una gama de criterios razonables dentro de las ya tratadas en la literatura académica. En su caso, proponen tres únicos criterios elegibles para la determinación de la muerte: la muerte cardiorrespiratoria, la muerte encefálica y la muerte cortical (Veatch & Ross, 2016).

El argumento empleado por Veatch y Ross trata de evitar que su propuesta pluralista caiga en una pendiente resbaladiza. Sin embargo, creo que comenten un error conceptual. Si, como argumentan, la muerte puede obedecer a criterios extracientíficos, entonces no está justificado recurrir a criterios científicos para limitar el rango de elegibilidad del pluralismo.

Discusión

¿Es razonable modificar los criterios de determinación de la muerte?

En la introducción de esta tesis mencionamos que el criterio neurológico para la determinación de la muerte surgió, entre otras cosas, por dos motivos: por un lado, para aumentar el número de órganos disponibles para trasplante. Por otro lado, para aumentar el número de camas disponibles en las UCIs para otros enfermos, así como la liberación de recursos médicos que antes no hubiesen estado disponibles (Rodríguez-Arias, 2013).

En uno de los artículos incluido en esta tesis, *A letter to the article "Whole Body Gestational Donation" published by Anna Smajdor in Theoretical Medicine and Bioethics,* Adrián Villaba y yo argumentamos que una de las razones por las que podría ser cuestionable mantener en marcha las funciones orgánicas de una mujer con el fin de dar a luz a un bebé podía ser el balance negativo entre costes y beneficios de tal práctica (Díaz-Cobacho & Villalba, 2023).

En efecto, los costes de tener a individuos conectados a máquinas con el objetivo de mantener sus funciones orgánicas son altos y pueden tener una gran repercusión social en países donde la sanidad es pública.

Nos encontramos ante un riesgo doble para el sistema de salud: por un lado, el pluralismo puede provocar que se obtengan menos órganos para trasplante. Por otro, que los costes asociados a gastos sanitarios aumenten y los espacios disponibles para cuidados disminuyan.

Respecto a la bajada de donantes en comparación con el sistema actual, es cierto que el alto grado de desconocimiento de la población sobre qué es y cómo se diagnostica la muerte encefálica puede estar jugando un papel positivo para el sistema de donación y trasplante de órganos. Como se puede observar en algunas encuestas,

la población tiende a rechazar el criterio neurológico para la determinación de la muerte cuando se le explica en qué consiste (Díaz-Cobacho et al., 2022; Zheng, Sutherland, Hornby, Shemie, et al., 2022).

El rechazo al criterio neurológico para determinar la muerte puede estar motivado por tres razones: I) que los ciudadanos tengan algún tipo de reticencia moral, religiosa o cultural hacia el criterio neurológico II) que los ciudadanos crean que pueden "recuperarse" del estado en el que se encuentran cuando son determinados como muertos por criterio neurológico y III) que observen signos compatibles con la vida en las personas en muerte encefálica y creen que no están realmente muertas.

Extender algún tipo de salvaguarda legal para evitar el criterio de muerte encefálica podría provocar una serie de rechazos a ser declarados como muertos bajo ese criterio por una de las tres razones anteriormente mencionadas. Además, a esto habría que sumarle la posible pérdida de confianza en el sistema de salud con el cambio de paradigma sobre la muerte[6].

Respecto al aumento de costes y reducción de espacios disponibles para otros pacientes, al menos a corto plazo, es inevitable. Los pacientes en un estado compatible con el criterio de muerte encefálica precisan de cuidados específicos y costosos. Durante un tiempo tienen que permanecer en una Unidad de Cuidados Intensivos para posteriormente pasar a una habitación sencilla del hospital o a su propia casa.

En España, por ejemplo, el coste de los cuidados de esta persona debe ser cubiertos por el estado. En el artículo "*DoC and COVID Vaccinations: A Complex Decision*" he debatido algunos problemas que podemos encontrar en el cuidado en casa de personas con graves desórdenes de conciencia (Hortal-Carmona & Díaz-Cobacho, 2021). Este tipo de cuidados son difíciles y pueden entrañar riesgos en emergencias

[6] Algo similar está siendo estudiado en la actualidad en relación con la donación tras eutanasia. Se argumenta que, si bien podría aumentar los ratios de donación y trasplante, también podría generar desconfianza al sistema de donación y trasplante por el temor de que el profesional sanitario involucrado en el proceso pueda "acelerarlo" para obtener los órganos del individuo que se encuentre en esa situación (van Dijk et al., 2023).

sanitarias como la Covid-19. En el caso de las personas que tienen el cerebro y tronco encefálico completamente destruido es aún peor, ya que requieren de máquinas para mantener sus funciones orgánicas y sus cuidados son mucho más delicados.

Un defensor consecuencialista del actual modelo bifurcado para determinar la muerte podría argumentar que, dado que el actual criterio de muerte encefálica provoca que muchas personas puedan ser salvadas gracias a los órganos de los fallecidos bajo ese criterio, y que el coste de mantenimiento de personas en ese estado sería muy alto, es peor para el mayor número de personas en nuestra sociedad adoptar un enfoque distinto al actual.

He de reconocer que las dos objeciones que acabo de presentar son, y son, quizás, dos de las mayores limitaciones de mi propuesta. Sin embargo, me gustaría ofrecer algunas respuestas a esas objeciones legítimas y bien fundamentadas.

En primer lugar, respecto al perjuicio sobre las ratios de donación, creo que habría que tener en cuenta que el descenso no deseable del número de donantes es solo hipotético, reversible –pues la confianza social en los trasplantes se puede recuperar– y en cualquier caso puede tener un carácter temporal, pues el avance científico-técnico de los últimos años nos hace pensar que en el futuro no será necesario el uso de órganos humanos para asistir a los demandantes de órganos. El avance de los xenotrasplantes (Rollin, 2020) y de los órganos artificiales (Hutchison & Sparrow, 2016) puede hacer que en unos años esta discusión no tenga que darse.

Estas soluciones no sólo harían irrelevantes las discusiones en torno a la importancia social de la donación, sino que además serían medidas que en el futuro acabarían siendo más rentables para el sistema de salud, a nivel económico, que la donación tras muerte encefálica. Y es que, si bien la donación tras muerte encefálica es mejor en comparación con otros tipos de donación por la cantidad de órganos que pueden trasplantarse, esta no deja de ser muy costosa.

Además, como he mencionado anteriormente, creo que el número de rechazos que podría darse tras la implementación en la práctica de un modelo pluralista para determinar la muerte es reversible. Está constatado que las políticas de transparencia y publicidad llevadas a cabo por organizaciones de donación y trasplante de órganos tienen un impacto positivo en las cifras de donación (Henderson et al., 2017, 2019; Meena et al., 2023). Estas mismas medidas podrían llevarse a cabo tras la implementación de un modelo pluralista para disipar los temores en la población hacia el criterio encefálica.

Centrándonos en las tres razones que podrían generar rechazo al criterio neurológico por parte de la población dos están asentadas en temores subsanables. Por un lado, aunque el criterio encefálico sea cuestionable por muchos motivos, uno de ellos no es la posibilidad de que la capacidad de recuperar una vida consciente sea posible. En efecto, un cerebro y tronco encefálico completamente destruidos son irrecuperables. Dicho de otro modo, la muerte encefálica sigue siendo un buen criterio pronóstico de pérdida irreversible de la conciencia (incluso reconociendo los casos excepcionales, como el de Jahi McMath, que ponen en tela de juicio la validez de las pruebas diagnósticas empleadas). Por otro lado, el rechazo provocado por observar signos "compatibles" con la vida en un individuo no deja de ser un síntoma discutible de signos vitales: Los individuos en muerte encefálica respiran y sus corazones laten, pero lo hacen de manera asistida. La distinción entre el carácter asistido y espontáneo de las funciones vitales ha sido discutida en la literatura, con argumentos sólidos sobre la irrelevancia del origen de la función, mientras esta se produzca (Nair-Collins, 2018). Sin embargo, las familias parecen conceder bastante importancia a la condición de asistencia en el ejercicio de la función respiratoria para aceptar la muerte encefálica (Martinez-Lopez et al., 2023)

En segundo lugar, respecto al argumento del incremento de los costes económicos asociados a la implementación de un sistema pluralista, así como la escasez de

aparatos y espacios hospitalarios es matizable pero cierto. Si bien creo que la escasez de espacios hospitalarios podría solucionarse a medio plazo enviando a los individuos a sus casas, los costes que estos cuidados supondrían son algo que hay que asumir como consecuencia del pluralismo. Este fue, por ejemplo, el caso de Jahi, que pasó gran parte de su vida post diagnóstico de muerte por criterio encefálico y posterior traslado a Nueva Jersey en un piso donde tenía, en una habitación, todo lo necesario para ser cuidada por su familia (Truog, 2018).

En definitiva, considero razonable permitir la objeción a las declaraciones de muerte según criterios neurológicos y permitir la acomodación de objeciones a esas declaraciones por varios motivos: en primer lugar, como hemos argumentado en los capítulos anteriores, persisten desacuerdos entre los expertos sobre si el criterio de muerte encefálica es o no un criterio válido para determinar la muerte humana. En segundo lugar, a esas discrepancias entre expertos hay que sumar el desconocimiento y rechazo de la muerte encefálica por parte de la sociedad y su apoyo a las acomodaciones, como podemos ver en los resultados del artículo *The brain death criterion in light of value-based disagreement versus biomedical uncertainty* (Martin et al., 2023). En tercer lugar, he tratado de argumentar que las implicaciones sociales de la aplicación de un sistema pluralista, si bien pueden suponer una pequeña bajada en las ratios de donación y trasplante de órganos y algunos costes económicos extras para el sistema de salud, no supondrían ni una pérdida masiva de donantes ni unos costes tan elevados.

El pluralismo débil

En el apartado de hallazgos traté de exponer los principales tipos de pluralismo existentes en la literatura académica. De ellos, creo que el pluralismo débil es la mejor opción y la que, de hecho, debería ser aplicada en nuestra sociedad. El pluralismo débil emerge como una opción sólida y equilibrada en el debate sobre la determinación de la

muerte, superando las limitaciones tanto del monismo débil como del pluralismo fuerte. A continuación, resumo las ventajas comparativas que ofrece el pluralismo débil:

1. Respeto a la autonomía individual y los desacuerdos legítimos: el pluralismo débil reconoce que existe un desacuerdo significativo entre expertos sobre cómo definir la muerte. Al permitir que las personas elijan los criterios por los cuales desean ser consideradas muertas, se respeta su autonomía y se aborda el conflicto de manera justa. Esto garantiza que aquellos que tienen objeciones legítimas al criterio predominante puedan actuar de acuerdo con sus creencias y valores.
2. Reconoce la complejidad ontológica y epistémica: la muerte es un fenómeno multidimensional que involucra aspectos biológicos, sociales, culturales y filosóficos. El pluralismo débil reconoce esta complejidad y busca una solución que refleje adecuadamente esta diversidad de perspectivas. En lugar de imponer una única definición de muerte, permite que coexistan múltiples enfoques mientras persiste el desacuerdo.
3. Evita la pendiente resbaladiza: a diferencia del pluralismo fuerte, que podría llevar a situaciones, el pluralismo débil establece límites asumibles al permitir que las personas elijan entre criterios biológicos aceptados por la comunidad médica sin caer en incongruencias tales como defender que la muerte no necesariamente tiene que tener una definición biológica para luego justificar los límites del pluralismo en la biología. Esto evita los excesos y garantiza que la determinación de la muerte siga siendo fundamentada en la ciencia.
4. Practicabilidad: como hemos mencionado anteriormente, no deberían existir inconvenientes prácticos a la aplicación de un pluralismo en nuestras sociedades contemporáneas ya que, *de facto*, se ha aplicado en países como Japón o Estados Unidos.

5. Mitiga preocupaciones prácticas: si bien pueden surgir preocupaciones prácticas relacionadas con aspectos legales y administrativos, como seguros de vida, pensiones y herencias, el pluralismo débil proporciona un marco flexible que puede abordar estas cuestiones mediante herramientas jurídicas adecuadas, como se ha hecho en otros contextos legales complejos.

El pluralismo débil ofrece por tanto una solución moderada y respetuosa que, reconociendo la complejidad de la determinación de la muerte, permite que las personas elijan los criterios con los que se identifican. Al evitar extremos potencialmente más disruptivos o autoritarios, y al promover la autonomía individual, se presenta como la opción que mejor concilia las diferentes preocupaciones normativas y científicas en este debate.

Principales limitaciones del pluralismo débil

A lo largo de este apartado de discusión he presentado las razones por las que creo que el pluralismo débil es la mejor alternativa para la determinación de la muerte de las aquí tratadas. Sin embargo, esta propuesta no está exenta de objeciones. Considero que dos de las principales objeciones, que han sido tratadas en el apartado anterior, son la posible pérdida de órganos para trasplante y los costes económicos asociados a mantener y tratar a personas que hasta ahora han sido consideradas cadáveres como muertas.

A estas objeciones hay que sumarle las objeciones comunes a cualquier pluralismo, que son la difícil aplicabilidad de este y las posibles consecuencias mundanas (tales como las herencias, los seguros de vida, etcétera.). Si bien considero que estas últimas objeciones han sido rebatidas, es importante señalar que, en efecto, han sido planteadas como posibles objeciones al pluralismo en la literatura académica (Veatch & Ross, 2016).

Conclusiones

Determinar la muerte sigue siendo una tarea controvertida teóricamente y problemática en la práctica. A lo largo de esta tesis doctoral he tratado de exponer algunos de los problemas que encierran los criterios con los que determinamos la muerte humana. A pesar del largo periodo de tiempo en el que el sistema dual (criterio cardiorrespiratorio y criterio neurológico) de determinación de la muerte lleva instaurado, sigue siendo cuestionado científica, normativa y socialmente.

Para intentar avanzar en este debate, algunos autores han defendido posturas más flexibles para determinar cuándo alguien ha fallecido. Los modelos han oscilado entre un monismo con acomodaciones y un pluralismo fuerte –individual o comunitario.

Nuestra propuesta, el pluralismo débil, asume que la determinación de la muerte no puede prescindir de bases biológicas, justificando no obstante la legitimidad de rechazar, dentro de límites acotados, el diagnóstico de muerte encefálica como muerte del individuo. He abogado por la inclusión de este pluralismo débil de forma genérica en las legislaciones de países como España por dos motivos principales: su fácil aplicación y su limitada disrupción conceptual.

La aparición constante de artículos que alimentan y cualifican este debate hace pensar que la controversia sobre la determinación de la muerte no está pronta a terminar. El surgimiento de propuestas académicas cercanas a posturas pluralistas sugiere que el pluralismo puede adquirir mayor relevancia en el futuro.

Un aspecto teórico que ha quedado por desarrollar en esta tesis es la relación que existe entre la objeción de conciencia y la oposición de los profesionales sanitarios a diagnosticar la muerte por criterio neurológico. En los próximos años espero poder profundizar en este debate, no solo desde un enfoque teórico, sino también tanto desde una perspectiva empírico. Profundizar en los conocimientos y las actitudes de la

población general y de los profesionales sanitarios en particular permitirá arrojar luz sobre la relevancia y posible aceptación social de esta propuesta.

Final Remarks

Determining death remains a controversial task in theory and problematic in practice. Throughout this doctoral thesis I have tried to expose some of the problems involved in the criteria by which we determine human death. Despite the long period of time in which the dual system (cardiorespiratory and neurological criteria) for determining death has been in place, it continues to be questioned scientifically, normatively and socially.

To move forward in this debate, some authors have defended more flexible positions for determining when someone has died. Models have ranged from monism with accommodations to strong pluralism - individual or community.

Our proposal, weak pluralism, assumes that the determination of death cannot dispense with biological bases, while justifying the legitimacy of rejecting, within limited limits, the diagnosis of brain death as the death of the individual. I have advocated the inclusion of this weak pluralism in a generic form in the legislation of countries such as Spain for two main reasons: its easy application and its limited conceptual disruption.

The constant appearance of articles that feed and qualify this debate suggests that the controversy over the determination of death is not about to end. The emergence of academic proposals close to pluralist positions suggests that pluralism may become more relevant in the future.

One theoretical aspect that has remained to be developed in this thesis is the relationship between conscientious objection and the opposition of health professionals to diagnosing death by neurological criteria. In the coming years I hope to be able to deepen this debate, not only from a theoretical approach, but also from an empirical perspective. Deepening the knowledge and attitudes of the general population and of health professionals in particular will shed light on the relevance and possible social acceptance of this proposal.

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Resultados

Pluralism in the determination of death

Introduction

Advances in medical technology in the 1960s made it possible to sustain people in intensive care despite total and irreversible damage to their brain and brainstem. This led physicians to question the vital status of these individuals. In 1968, a Harvard committee proposed expanding the diagnostic criteria for death by introducing a neurological criterion for such cases [1]. Although widely accepted by the medical community, this sparked a debate, primarily within the academic community, about whether death by brain criteria should be considered as death.

Much of the debate centers on the search for the best criterion. Some advocate the existing brain criterion, while others propose alternatives that they believe are superior. A criterion for death can be considered good in at least two ways: because it is accurate, thus avoiding both false positives and false negatives, or because it is sound and acceptable from an ethical or policy perspective.

Among the public, surveys indicate a scarce knowledge and a certain reluctance to accept brain death as a valid criterion for determining death [2, 3]. This reluctance may stem from the fact that brain-dead individuals continue to breathe (through mechanical ventilation), have a beating heart, and maintain a warm body. In some cases, such as Aaron Halberstam [4] and Jahi McMath [5], relatives oppose the determination of death by neurologic criteria and request that their loved one continue to be considered alive [6].

In most jurisdictions, physicians hold the legal prerogative to determine an individual's death. For instance, in the USA, the Uniform Death Determination Act (UDDA) specifies that death can be declared, in accordance with accepted medical standards, when there is either (1) irreversible cessation of circulatory and respiratory

functions, or (2) irreversible cessation of all functions of the entire brain, including the brain stem. The choice between these two criteria for a particular individual rests with the attending physician. Consequently, people have no say in the criteria used to declare their own or their loved ones' deaths; it is imposed upon them, regardless of their values, beliefs, and preferences.

Death as a matter of choice

Should individuals have a say in determining the criteria for declaring their own or their loved ones' deaths? This possibility exists in Japan and in some states in the USA, notably in New Jersey, where religious influence has played a significant role in shaping these policies [7, 8]. More recently, cases challenging the neurological criterion for death determination have emerged in the United Kingdom [9].

This right for individuals to choose from among different criteria of death can be referred to as pluralism in the determination of death. It stands as an alternative to the medical imposition of the neurological criterion for determining death.

Some clarifications are in order. First, we are referring to legal pluralism. This means that people are legally allowed to choose the criteria applicable to their own or their loved one’s death, and also that this affects their vital status in the eyes of the law. This is about death from a legal perspective, regardless of the biological, philosophical, or any other perspectives. There are other forms of death pluralism that are often conflated: ontological or metaphysical, conceptual, and epistemological [20]. The justification for legal pluralism may be based on some other form of pluralism.

Second, only two options exist in Japan and the USA, i.e., cardiorespiratory death and brain death. However, pluralism in the determination of death is not necessarily restricted to currently accepted criteria; it could encompass other theoretical options. Some have proposed a variation of the neurological criterion based on the cessation of higher-brain functions, such as the capacity for consciousness and cognition, which are

constitutive of personhood and personal identity [10, 11]. Others advocate low-level biological criteria, neither neurological nor cardiorespiratory, based on fundamental concepts such as homeostasis and entropy [12]. We could also imagine a policy where the choice would not be limited to a finite number of preset criteria, but open to an infinite number of self-chosen options. However, there is no record in the literature of any advocacy of this position.

Third, although they appear similar and may lead to the same measures, pluralism must be distinguished from accommodations. Seeking accommodation involves negotiation and dialogue between health professionals and families with different interpretations of medical death criteria, with the aim of reconciling differences within that medical framework where ethically and technically feasible. In such cases, professionals believe that a brain-dead individual is actually dead, with all that this implies in practical terms, while the family believes the opposite and demands different practices. Both parties assume that there is a correct interpretation of the criteria for death, namely their own. A policy of limited conciliation, such as that recommended by the American Academy of Neurology [6], is based on the idea that the medical criteria for death are correct (and therefore that families who do not accept them are mistaken). Legal pluralism, on the other hand, does not necessarily imply or rely on the idea that one side is right. As we shall see, it can be based on the absence of consensus on what death is, or on moral or political considerations independent of beliefs and the truth of the matter, if there is any. On the issue of accommodations, see [13–16].

Pluralism as a response to the lack of consensus on what human death is

One justification for pluralism is the absence of a single unambiguous and consensual concept or definition of human death. As Karen Gervais puts it: “Any criterion for determining death presupposes an answer to the question: What is so essentially

significant to human life that its irreversible loss is death? People differ in their answers to this question" [17].

Some advocate a strong form of pluralism by claiming that biology fails to provide any clear answers to this question. For instance, Linda Emanuel argues that dying is a gradual and asymptote-like process and that life cessation can be declared within a "bonded zone" of residual states of life, anywhere between cardiopulmonary death and persistent vegetative states [18]. One step further, Piotr Nowak and Adrian Stencel challenge a core assumption of the biological conception of death, namely that death is equivalent to the cessation of the organism [19]. By showing that theoretical biology operates with a plurality of equally valid concepts of an organism, they assert that there is no single correct answer to whether a brain-dead individual is biologically alive or dead.

Some advocate a weaker form of pluralism, suggesting that although there might be a scientifically correct criterion for determining death, this should not necessarily prevent stakeholders from choosing different criteria. Gonzalo Díaz-Cobacho and colleagues argue that, as long as the criteria for death (such as the neurological criterion) remain the subject of scientific controversy, i.e., as long as there is reasonable doubt as to their validity, patients and relatives should be allowed to make an autonomous decision on whether they accept these criteria [20].

On a different note, Michael Nair-Collins distinguishes between organismic death and personal death, emphasizing that they do not always coincide [21]. While advocating a theory of biological death to scientifically determine the vital status of an organism, he simultaneously seeks a policy on personal death that would allow for non-scientific criteria.

John Lachs argues that death is not merely a matter of fact, as it involves social choices and decisions, such as those related to the costs and benefits of keeping alive those in organic decline [22]. Death is best understood as a biologically based social

status whose determination is an evaluative issue mediated by both biology and social factors.

Robert Veatch and Lainie Ross also argue that declaring death is more than describing the cessation of the organism [4, 23]. It involves acknowledging that 'the individual is no longer with us as a member of the human community with rights such as the right not to be killed'. This is a normative issue on which different stakeholders may disagree. While physicians have expertise that is crucial to determining the physiological condition of an individual, the definition of death is a social question rooted in religious, philosophical, and social beliefs about which physicians and other health care providers do not have special expertise.

Pluralism as respect for individual autonomy

Veatch pioneered the bioethical perspective on individual choice in defining death [24, 25]. He proposed that, for pragmatic reasons, the state should choose a default definition of death (e.g., whole-brain death), but that individuals and their relatives should be allowed to exercise conscientious objection if they disagree with the default, for religious or moral reasons, as is the case with other issues [26].

Following Veatch's lead, other authors have proposed variations on the same idea, such as limiting proxy decision making to the case of children [27], or emphasizing the principle of respect for individual autonomy [28].

Ivars Neiders and Vilius Dranseika have tested Veatch's approach with empirical research [29, 30]. They found marked differences in the public's preferences regarding the determination of death. They also found that the three conceptions of death discussed in the bioethics literature and proposed by Veatch as alternatives to choose from were preferred by a significant proportion of study participants, with the whole brain criterion being the most frequently chosen answer. These studies provide some initial evidence to support the pluralistic solution proposed by Veatch.

Osamu Muramoto initiated a new argument, independent of Veatch's, that relies on the idea of informed consent prior to the diagnosis of brain death [31]. This is intended to accommodate the wishes of those who would like to express their unique preferences in the end-of-life decisions at the last moment, similar to other measures that have already been carried out, such as the Do Not Resuscitate (DNR) order and the Physician Orders for Life-Sustaining Treatment (POLST).

Along these lines, Ivor Berkowitz and Jeremy Garrett have explored the legal and ethical bases for requiring consent prior to apnea testing to determining death. This would allow the patient's relatives to prevent the determination of death by neurological criteria by withholding consent to this test [32].

Pluralism as a form of political liberalism

It is not always clear whether pluralism is justified on moral grounds, based on respect for individual autonomy, or on political grounds, based on respect for the plurality of values and beliefs. One example of this is Syd Johnson's argument for allowing conscientious objections to neurological criteria [33].

In some cases, pluralism is advocated from a cultural and religious perspective. Starting from the situation in Japan, Masahiro Morioka shows that death concepts are rooted in culture; while some Westerners place the essence of what is human in self-consciousness and rationality, many Japanese place it not only in the mind but also in the body, and these different views of death deserve respect [34].

Acknowledging that British society is pluralistic, Kartina A. Choong and Mohamed Rady highlight the need for a sensitive and ethical approach to dealing with conflicts between secular and religious perspectives on death and propose a thorough parliamentary debate on the issue [35, 36]. Along these lines, Stamenkovic [37] also suggests that the plurality of positions on death opens a political space for negotiation and democratic discourse.

Some authors refer to John Rawls' concept of overlapping consensus. This term underscores the importance of finding common ground among individuals with diverse and sometimes conflicting comprehensive doctrines. It aligns with the broader aim of pluralism in the determination of death, as it emphasizes the need to accommodate varying cultural, religious, and philosophical perspectives within a democratic framework. Among those authors, we can mention Michael Nair-Collins, Kristin Zeiler, and Christos Lazardis [21, 38, 39].

The differents forms of pluralism addressed in this manuscript are summarized in table 1.

Conclusions

Pluralism is a position that has been present almost since the beginning of the bioethical debate on the determination of death. It advocates the right of individuals to choose the definition and criteria for determining their own death or that of their family members. Although it is still a minority position, its presence seems to have increased in recent years.

Pluralism in the determination of death can be justified on scientific, moral and/or political grounds. Supporters of the scientific justification for pluralism argue that it is based on the absence of consensus on the validity of current medical criteria, either because there is no clear biological answer or because death is not (only) a biological issue, but (also) a social construct. The moral justification is grounded in the principle of autonomy, asserting that individuals should have the right to make end-of-life decisions in accordance with their own beliefs and values, provided they do not harm others and adhere to societal ethical boundaries. The political justification, often drawing from John Rawls' theory, emphasizes the need for overlapping consensus in diverse, liberal, and democratic societies.

Table 1

Approach	Author(s)	Perspective/Argument
***Legal Pluralism**	All	A requirement for any kind of pluralism, it must be present in all countries where a pluralistic concept in the determination of death is accepted.
Biological Pluralism	Linda Emanuel, Piotr Grzegorz Nowak and Adrian Stencel, Gonzalo Díaz-Cobacho, Alberto Molina-Pérez and David Rodríguez-Arias	Strong form: Biology fails to provide a clear answer to what constitutes human death; death is a gradual process. Weaker form: Scientifically correct criteria may exist, but stakeholders should be allowed to choose different criteria if there is scientific controversy. Differing views on the biological conception of death.
Pluralism in the light of the biological and normative bifurcation of death	John Lachs, Michael Nair-Collins, Robert M. Veatch and Lainie Ross	Death involves social choices and decisions, influenced by biological and social factors. Declaration of death goes beyond physiological cessation; it is a normative issue rooted in religious, philosophical, and social beliefs. Physicians lack special expertise in defining death from these perspectives.
Pluralism as respect for individual autonomy	Robert M. Veatch and Lainie Ross, Ivars Neiders and Vilius Dranseika, Osamu Muramoto, Ivor Berkowitz, and Jeremy Garret	Pluralism is justified on moral grounds (individual autonomy). Individuals and relatives should have the right to choose death criteria or exercise conscientious objection for religious or moral reasons. Empirical research shows differences in public preferences for death criteria. Informed consent before the diagnosis of brain death is proposed as an option. Limiting proxy decision-making in specific cases.
Pluralism ad a form of Political Liberalism	Syd Johnson, Masahiro Morioka, Kartina A. Choong and Mohamed Rady, Marko Stamenkovic, Michael Nair-Collins, Kristin Zeiler, Christos Lazaridis…	Pluralism is justified on political grounds (respect for plurality of values and beliefs). Cultural and religious perspectives influence views on death. Overlapping consensus, as proposed by John Rawls, is essential for accommodating diverse perspectives within a democratic framework.

*Legal pluralism is not only an approach but also a requirement. In any society where some kind of pluralism (biological, political, etc.) is accepted, the law must allow this type of practice.

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Zheng et al have been responsible for an interesting Scoping Review that collects the main articles on the population's knowledge of the definition of the determination of death. This study is key in order to have a proper mental map of the public's opinion.

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The article by Nowak and Stencel is particularly interesting in that it challenges the biological idea of death. This article, therefore, does not focus on whether or not death is a biological issue, but tries to show that biological death is not a well-defined fact at present.

[22] **Díaz-Cobacho, Gonzalo, Alberto Molina-Pérez, and David Rodríguez-Arias. 2023. Death pluralism: a proposal. Philosophy, Ethics, and Humanities in Medicine 18: 10. https://doi.org/10.1186/s13010-023-00139-3.

This article is relevant because it presents a novel alternative, Weak Pluralism. This proposal to determine death proposes that individuals can choose under which criteria they want to be considered dead because of existing epistemological discrepancies.

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Lazaridis proposes arguments to defend the right to decide under which criteria an individual wants to be considered dead from a Rawlsian point of view. That is, putting the focus on the political question.

Death Pluralism: A proposal

Background

The neurological criterion of death

In the late 1950s and early 1960s, advances in resuscitation techniques helped recover patients in increasingly dire conditions, although some of them could only survive with severe neurological sequelae. Health professionals faced an increasing number of patients with irreversible brain damage and no chance of meaningful recovery. The term that Frenches physicians Mollaret and Goulon used to refer to this phenomenon was coma depassé (Mollaret & Goullon, 1959), a state of irreversible unconsciousness that would be used for some years as a diagnosis for these patients.

In the late 1960s, important institutions in the field of medical science such as the French College of Physicians (Académie Nationale de Médecine 1966), the World Medical Association (Machado et al. 2007), and the Harvard Medical School Ad Hoc Committee on Brain Death (Beecher 1968) developed a new concept for the determination of a person's death: the so-called “brain death” (BD), that is, the determination of death by neurological criteria. This new concept would soon be adopted by the medical community at large –in addition to the traditional cardiorespiratory criterion– and implemented into the laws of many developed countries. Currently, at least 83 countries worldwide have protocols for the determination of brain death/death by neurological criteria (Lewis et al. 2020).

BD allowed physicians to declare a patient's death before the heart stopped beating, opening up the possibility of obtaining and transplanting vital organs, including the heart itself, under optimal conditions. For this reason, BD became a fundamental element in the success of the transplant systems that every year saves and improves the lives of thousands of patients on the waiting list. In Spain, a leader country in deceased donation, more than 65% of transplants are performed with organs from BD donors (EDQM 2021).

In contrast, in other European countries such as Denmark, 100% of deceased organ donations come from BD patients (EDQM 2021).

The brain death controversy among scholars

Although firmly established in clinical practice and accepted in many jurisdictions, the mainstream rationale for equating BD to death –that BD individuals have irreversibly lost integration– has been challenged from different perspectives (Brugger 2016; Byrne & Weaver 2004; Gervais 1986; Halevy 2001; Halevy & Brody 1993; Joffe 2007; J. P. Lizza 1993; Molina-Pérez, Bernat, & Dalle Ave 2023; Potts 2001; Seifert 1993; Shemie et al. 2014; Taylor 1997; Truog 1997; R.M. Veatch 1993; Verheijde, Rady, & Potts 2018; Youngner & Bartlett 1983; Zamperetti et al. 2004). Evidence shows that several integrative functions of the organism (such as the endocrine system) can continue in BD individuals (Nair-Collins 2022; D. A. Shewmon 2001). Moreover, BD individuals can be artificially sustained for years (D. A. Shewmon 2018b), as shown by the case of Jahi McMath. In 2008 the President's Council on Bioethics in the U.S. rejected the "false assumptions that the brain is the 'integrator' of vital functions" while justifying brain death based on a new rationale (The President's Council on Bioethics 2008).

In 2018, the Hastings Center published a special report in commemoration of the fiftieth anniversary of Harvard Committee's seminal article on brain death (Hastings Center Report 2018). This report shows that the debate between experts on what death is and how to determine it has never ceased and remains very active.

The sources of disagreement and controversy are many and varied, and it is beyond the scope of this article to review them all (for a brief overview of the different positions on this subject, see D. A. Shewmon 2021; Zheng, Sutherland, Hornby, Wilson, et al. 2022). Suffice it to say that the debates take place on metaphysical and ethical arenas, and to a lesser extent on scientific and philosophy of science arenas (Molina Pérez 2022; Nair-Collins 2015).

For example, one of the philosophical issues at stake is whether human death is primarily a biological phenomenon. On the one hand, among those who believe that death is a biological phenomenon, there are differing opinions as to its nature. Although most defend the idea that death is the cessation of the functioning of the organism-as-a-whole (rather than the whole organism), there are many different interpretations of this notion. The conflicting rationales for the brain criterion of death put forward by the President's Commission (1981) and the President's Council (2008) are a good illustration of this, with the former defending a systemic or cybernetic conception of the organism-as-a-whole, while the latter proposed a phenomenological conception (see Scherz 2022). The source of these disputes over an issue that all parties agree is biological, i.e. scientific, is often to be found in their underlying metaphysical assumptions. However, even authors who share the idea that death is a biological phenomenon, and who also share a common underlying metaphysical position, be it materialistism, hylemorphism or other, do not necessarily agree as to whether brain death is equivalent to the death of the organism as a whole.

On the other hand, among those who dispute the claim that death is primarily a biological phenomenon, some argue that what matters is not the death of the human animal (the organism) but the loss of what constitutes a human being, or the loss of what one deems more important (morally) in human life, such as personhood or personal identity, or the soul understood in either religious or non-religious terms (John P. Lizza 2006; 2018; Molina-Pérez y Dalle Ave 2022). Others argue that death, the death that matters to us, is above all a social construct or a legal fiction, which are independent of the biological reality of death, if there is such a thing. These authors do not necessarily deny the biological phenomena associated with death, or that these biological phenomena are relevant in determining human death, or that biologists and physicians are capable of correctly assessing the vital biological state of a given organism. However, whether for metaphysical, ethical, legal or anthropological reasons, they consider that

human death is a concept that is distinct from and irreducible to these biological phenomena. With regard to whether or not the criterion of the brain should be used to determine the death of a human being, they also have conflicting opinions.The above is only a limited overview of some of the philosophical issues that have been discussed since 1968. These discussions may make use of and draw on the scientific data, but are independent of it. For example, to our knowledge, no one would deny that hypothalamic activity, including the production of antidiuretic hormone, can remain in brain dead individuals. However, there is a debate as to whether or not this activity is functional; if so, whether this remaining brain function is relevant, significant or critical to the determination of brain death; and if so, whether these individuals are actually alive according to the law (which in the US requires the irreversible cessation of all functions of the entire brain, including the brainstem) or, on the contrary, whether the medico-legal brain criterion should be revised as to exclude hypothalamic function. In other words, the scientific data alone do not suffice to determine what death is nor science alone can end the controversies on this issue.

The brain death controversy among health professionals and the public

The controversies associated with the concept of BD are not limited to academic forums. If we take into account the knowledge and beliefs of health professionals and the general public in relation to this concept, we observe that there is far from a consensus as to what BD is or what it implies: these assertions can be verified by surveys of health professionals and the general public in which they show ignorance or disagreement with the BD criterion (Zheng, Sutherland, Hornby, Shemie, et al. 2022a; Zheng, Sutherland, Hornby, Wilson, et al. 2022).

Some people are reluctant to accept BD as equivalent to death. A recent study in Australia showed that a substantial proportion of the general public are either unsure or do not consider that a patient described as ‘BD’ is actually dead (29,8%) (Skowronski et

al. 2020). Similar conclusions can be drawn from studies of the public in the USA (Nair-Collins, Green, y Sutin 2015; Siminoff, Burant, y Youngner 2004). More generally, a review of the literature including 43 studies with 18,603 participants showed that "participants generally do not understand three key issues: (1) uncontested biological facts about BD, (2) the legal status of BD, and (3) that organs are procured from brain dead patients while their hearts are still beating and before their removal from ventilators." (Shah, Kasper, y Miller 2015).

It is not uncommon for neurologists and critical care physicians to encounter families who object to the discontinuation of life support after the declaration of death by neurological criteria (Lewis et al. 2016; van Beinum et al. 2021). This opposition is illustrated by controversial cases, including Jahi McMath's case (D. A. Shewmon 2018b), where parents objected to the treatment withdrawal, thus initiating a legal suit (Lewis y Greer 2017).

Among the reasons invoked by families against BD, some are religious in nature (Robert M. Veatch 2000). Cultural and religious traditions have been cited to explain why several Eastern countries, including China and Japan, have been reluctant to incorporate BD into legislation and medical practice (Lock 2002; Terunuma & Mathis 2021; Yang & Miller 2015).

There may be non-religious reasons for rejecting BD among the general public, including philosophical and 'common sense' reasons, as there are among scholars. However, there is a lack of empirical data to support or refute this hypothesis. Furthermore, in those jurisdictions where it is legal to object to BD determination, to our knowledge only religious and cultural grounds are considered. Therefore, in the following we will focus on religion and culture to describe people's negative attitudes towards BD, although this may only be part of the picture.

In the USA, a recent survey found that in 20% of cases involving a religious objection, the patient was Buddhist, Hindu, Jewish, or Muslim (Lewis y Kitamura 2021).

Some evangelical Protestants, Japanese Shintoists, and Native Americans have also asserted religious objections to BD determination (Pope 2018). A survey of Jewish faith leaders found that, although 97% of rabbis know that BD and cardiopulmonary death are medically and legally equivalent, one in four believe that BD is not equivalent to death and almost one in five agrees with the continuation of life support after BD determination (Lewis 2019). Opposition to BD and discontinuation of life support is particularly extended among Ultra-orthodox Jews (Gabbay y Fins 2019). Among Muslim faith leaders, although a majority of scholars and medical organizations accept BD as true death, the consensus is not unanimous (Chamsi-Pasha y Albar 2017; Miller, Ziad-Miller, y Elamin 2014). Some prominent scholars in the academic debate on BD even claim that law enforcement of a nonconsensual determination of BD violates the religious rights of observant Muslims (Rady y Verheijde 2018).

Moreover, there are also numerous surveys in which, when health professionals are asked about the determination of death, they show ignorance or rejection of it (Joffe, Anton, Duff, y Decaen 2012; Lewis et al. 2016). Although most health professionals involved in the care of BD individuals believe that BD is a reliable standard for death determination (D. Rodríguez-Arias et al. 2013), half of them (49%), according to a survey conducted in France, the US and Spain, believe that mechanical ventilation should not be discontinued against family wishes or the formerly expressed preferences of the deceased, and even many professionals (41%) would agree that death should not be declared against their wishes (David Rodríguez-Arias, Molina-Pérez, y Díaz-Cobacho 2020).

Requests for accommodation

In January 2019, the American Association of Neurology (AAN) published a position statement to provide guidance to its members “on how to respond to objections to the determination of death by neurologic criteria and requests for temporary or indefinite

accommodation" (Russell et al. 2019). The AAN acknowledges that physicians may face requests for accommodation by relatives and patient surrogates that include objections to BD determination or the withdrawal of organ-sustaining technology. These requests may originate, according to the AAN, from either a lack of understanding or actual disagreement– of brain-based determinations of death. Although the AAN strongly endorses the view that BD is death, and that there is no ethical obligation to provide medical treatment to a deceased person, it suggests that some degree of accommodation based on "reasonable and sincere social, moral, cultural, and religious considerations" may be necessary for pragmatic reasons. The AAN statement depicts its own solution as temporary and ethically unsubstantiated. In short, they play the role of a stopgap to avoid initiating legal proceedings with the families of brain-dead individuals (e.g. the case of Jahi McMath) and to avoid compromising the work and integrity of healthcare professionals.

In other contexts, however, there may be more room for negotiation and compromise based on institutional guidance, such as the aforementioned AAN statement. In the U.S., the states of New York, California, and Illinois go a step further by including accommodation clauses in their regulations or laws, the extent and duration of which are usually left to the discretion of hospitals themselves. Israel and the state of New Jersey go even further by including an option for religiously based dissent in the law, meaning that an individual who would be considered dead according to medical standards may remain legally alive if relatives veto the determination of BD on religious grounds (Gabbay & Fins 2019; Lavee et al. 2010). As a matter of fact, this is a form of pluralism with regard to the legal determination of death. An even stronger form of pluralism exists in Japan where the law establishes a dualistic system of eligibility in the determination of death, meaning that individuals can actually choose, in agreement with their family, by which of the two criteria (cardiorespiratory or neurological) they wish to be declared dead (Bagheri 2007).

There are several degrees of legal adaptability to religious or non-religious beliefs with regard to the determination of BD, from no accommodation at all, to the presumption that BD does not equate to death unless the individual or their family members accept that concept. The measures recommended by the AAN in the U.S. may solve a practical problem in a clinical setting where increased mistrust may be particularly harmful and counterproductive (e.g. in terms of organ procurement), but they fail to address the theoretical and political problem of whether people should have a right to object to a BD diagnosis. In fact, these forms of accommodation raise but leave unresolved the fundamental question of who has authority –and on what grounds– to draw the line between life and death.

Some important philosophical distinctions

Four different levels of description

Human death can be approached from at least four different perspectives or levels of description: ontological or metaphysical, conceptual, epistemological, and legal. The order of these levels is not arbitrary, as we believe that each level can have theoretical implications for the next.

First, we must define the nature of death itself. The question is: what is death? This is an ontological/metaphysical question because it refers to reality itself, its nature and composition. A corollary question would be: when does death occur?, which is also an ontological question that refers to the causes or conditions of the transition from life to death. For example, the mainstream view is that death is a biological phenomenon that occurs when the organism ceases to function as a whole. However, the interpretation of the organism-as-a-whole concept may differ depending on the underlying metaphysical background we hold (e.g., materialism/mechanicism, Aristotelian/hylemorphism, etc.).

Secondly, there is the question of how to define death once we have reached a conclusion at the ontological/metaphysical level. For example, those who believe believe

that death is a biological issue must clarify their concept of death from a biological perspective. Several authors believe that death is the loss of the integrated functioning of the organism as a whole, although some argue that it requires the irreversible cessation of brain function as a whole (Bernat 2022), some argue that it requires the irreversible cessation of systemic circulation instead, thus rejecting the brain criterion (D. A. Shewmon 2022), and others argue that an irreversible loss of cortical functions responsible for consciousness and cognition, which they claim are the specific capacities of the human being, would be sufficient (Green y Wikler 1980). Other concepts of death include the thesis that we die when entropy exceeds homeostasis (Nair-Collins 2020). All of them agree on the biological basis of the ontology of death, but none of them handles the same concept of biological death. Therefore, we can say that there is a conceptual disagreement between them.

Third, there is the question of determining whether or not death has occurred (in other words, whether or not the criteria for meeting the definition are met) and how this can be ascertained. In other words, how do we know if an individual has died? This is an epistemological question because it concerns our knowledge of the occurrence of death. Let us imagine that several experts agree on the ontological/metaphysical nature of death and on its conceptual definition. In this case, it would seem logical that they would also agree on how to diagnose death. However, there are also disagreements on this point. There are many experts who express their rejection of some tests to evaluate whether someone is dead or not. A case that exemplifies this disagreement is that of Jahi McMath. The case itself is very well explained in the report made in 2018 by the Hastings Center (Hastings Center Report 2018). What interests us about this case is that some experts alluded to epistemological arguments to say that, regardless of how we understand death, this case is controversial because the encephalic death of this girl was misdiagnosed. That is, the tests were not sufficient or adequate.

Fourth, there is the issue of declaring that an individual has died. The corresponding question would be: when should we declare death? This is a legal question insofar as it concerns the consequences of death in terms of rights, duties, and responsibilities (e.g., in case of manslaughter or murder), as well as the practices (e.g., autopsy, burial, probate, insurance claims, etc.) that are permitted or prohibited depending on whether the individual is legally dead or alive.

The ontological, conceptual, epistemological, and legal approaches are independent of each other. For example, to determine whether an individual is alive or dead, something that some non-human animals are capable of doing as well (Monsó 2021), it is not necessary to have a prior definition, conception, or theory of what death is. This means that people can agree on the fact that someone is dead even if they have different and incompatible conceptions about the nature and meaning of death. Similarly, to declare that an individual is dead, for social and legal purposes, it is not necessary to know what death is or even to know whether that individual is really dead (however we understand by the reality of death here). Apart from cases of diagnostic and administrative errors, it is possible and lawful to declare the death of an individual despite the absence of any direct evidence, such as the finding of remains (e.g., a corpse), when that individual has been missing for a prolonged period and/or when there is good reason to believe that the person has died (e.g., a plane crash).

Ontological monism and pluralism

People may agree on the idea that there is a correct answer to the question “what is death?”, even if they disagree on what the correct answer is. Some believe that their own answer is correct and that the other answers are wrong. Others believe that there is an answer but that we have not yet found it. This idea that there is one and only one true answer to the question of the nature of death is what we will call ontological monism.

An alternative idea would be that the same term, "death", is used to refer to different phenomena so that the question What is death? can have several different correct answers. For example, one can consider from an ontological perspective that death is simultaneously a spiritual phenomenon (e.g., the separation between body and soul), a psychological phenomenon (e.g., the extinction of the capacity for consciousness, personal identity, and meaningful relationships with others), a social phenomenon (e.g., the disappearance of a citizen, i.e., a physical person with rights and duties in the public sphere, or the disappearance of a node in the network of interpersonal interactions), and a biological phenomenon (e.g., the disintegration of the organism as a whole). These responses conflict when the same individual can be considered alive or dead depending on the phenomenon under consideration. This idea that there are several simultaneously correct but not equivalent (i.e. potentially conflicting) answers to the question of the nature of death –or of the vital state of an individual– is what we call ontological pluralism.

Legal monism and pluralism

Since the first half of the twentieth century, several countries have required that deaths be medically certified by physicians before they are legally pronounced. However, as mentioned above, death can also be legally pronounced without any medical evidence when certain conditions are met (e.g., a plane crash). In either case, the law establishes the provisions under which death can and must be pronounced.

What we will call here legal pluralism is a situation in which there are two or more non-equivalent (i.e., potentially contradictory) sets of rules for legally pronouncing death and citizens can choose which one applies to them. To put it another way, legal pluralism in relation to death is a situation in which people can legally oppose or circumvent certain legal provisions for pronouncing death, when it concerns themselves or the death of a loved one, for religious, philosophical, or other reasons. For example, the law would allow people to decide whether or not to accept the neurological criteria for death, as

determined by medical standards, for themselves and their family members. This means that, for legal purposes, the vital status of a patient with BD would depend on the decision of the patient and/or their family. In contrast, what we will call here legal monism is (most often) the situation in which people cannot make any decision about how their death will be legally pronounced because there is only one set of rules that apply to everyone equally.

Conceptual and epistemological monism and pluralism

If, as we have mentioned above, we share the same idea of what death is from an ontological perspective (ontological monism), we may disagree with our concept of what it means to be dead. In this case, we would be faced with conceptual pluralism. Finally, if we share the same ontological perspective (ontological monism) and also share the same conceptual perspective (conceptual monism), we could disagree on how to diagnose the death of a human being and we would be faced with epistemological pluralism. To understand these concepts in practice, it will be useful to list the main approaches that, de facto, currently exist in our societies to determine whether a person is dead or not.

Discussion

Approaches to the practical ways to determine death

Strong monism

The first position, the most common in most countries, does not dispute the precepts established by the 1981 President's Commission (President's Commission 1981). These precepts state that there are only two criteria for determining human death (cardiorespiratory and neurological). In fact, the legislation of most Western countries does not even question the possibility of accepting someone as alive in the case of one of these two situations. We will call this position strong monism. This approach is based on the idea that the neurological and cardiorespiratory criteria for determining death are

based on objective and unquestionable scientific (biological) facts, which also have a clear ontological basis and which translate into a legal articulation in which death can only be determined in one way. Thus, we would be faced with monism on all levels: on the ontological level (since death is a biological phenomenon), on the conceptual level (because we know how to define it), on the epistemological level (since we also know how to identify it) and on the legal level (since only one way of determining death is accepted, represented by two criteria: neurological and cardio-respiratory).

Limits of strong monism

The strong monistic view usually takes the form of biological monism: death can only be predicated on organisms because life and death are biological phenomena. According to this view, irreversible loss of function of vital organs, such as the brain or the heart, means death. The implication is that scientists-biologists have the epistemic authority not only to confirm the loss of organ function, but also to interpret that observation in terms of life and death and to describe the event of death (i.e., the physiology of death) the fact that an organ (e.g., the brain or the heart) has irreversibly ceased to function is treated as an unobjectionable fact. According to the most frequent version of strong monism, the cessation of an organ implies death insofar as the organ (brain, heart) is necessary for the integration of the organism as a whole. When the death of a vital organ is total and irreversible, death is unquestionable. However, it is important to note that experts who agree on the idea that death is a biological phenomenon and who share the definition of death as a loss of integration may still disagree on the vital status of those individuals. Thus, disagreements within the strong biological monism position may stem from: (a) the belief that standard tests for assessing loss of vital organ function are unreliable; (b) the belief that the organ in question –e.g., the brain– is not essential for integration, meaning that its functional loss would not necessarily imply death (biologically understood as a loss of integration).

But there are not only conceptual or epistemological disagreements about the validity of the monism position, there are also ontological disagreements. This type of disagreement differs from the strong monism position in questions related to the nature of the phenomenon and can be divided mainly into two categories: (a) First, there are those who argue that death is not a strictly biological phenomenon, but rather a hybrid phenomenon, with one foot in biology and the other in culture; (b) second, there are those who argue that death is a social construct and that therefore science has no special relevance for decision-making related to it. Within this idea of social construction, insofar as death is not something biological, we can find different currents: some defend that the social construction of death refers to religion, others say that it refers to culture while others say that death responds to philosophical postulates. In this last place, we find those who defend that we cannot define death without speaking of metaphysics.

Weak monism

The second position, weak monism, shares with the strong monism approach the idea that there is only one correct way to interpret the vital status of individuals with BD as dead and only one ontological basis for determining death. However, this view adds a clause whereby patients or their relatives can reject declarations of death (in BD diagnoses) for pragmatic reasons (e.g., to avoid lawsuits or to preserve trust in healthcare professionals). In practice, such a clause allows individuals to maintain a living state even though anyone else in the same conditions would be considered dead. Although this approach allows the wishes of families to be respected, it presupposes that they lack valid reasons for disagreeing with the declaration of the death of their family member. In essence, the accommodation stance is nothing more than a stopgap to silence the voices of those who disagree with the neurological criteria for the determination of death, without questioning the soundness of their objections to the real underlying problem.

An example of this type of posture is found in many states in the United States, where for practical reasons and out of respect for the religious beliefs of many people, certain people are allowed to be accommodated. That is, they are treated as alive despite being in BD status. We could say that this type of monism is framed in the same ontological, conceptual and epistemic level as strong monism but that it would broaden its framework of options in the legal plane to accommodate these accommodations.

Limits of weak monism

Weak monism differs in practice from strong monism in that it tolerates objections to the determination of BD by allowing accommodation procedures. However, both forms of monism reject that the reasons for such objections can be acceptable, since they are based exclusively on extra-biological, non-scientific grounds. In other words, although weak monism is a practical mechanism for dealing with religious and cultural disagreements, it shares with strong monism the fundamental assumption that disagreements about the determination of death has no epistemic credibility.

Both forms of monism also face the objection that, while physicians certainly have the expert authority to describe the state of a body part such as the brain, they do not have the similar ability to demonstrate that the brain is vital. To claim so implies the imposition of a biological definition of death.

But not only are there conceptual disagreements about the validity of the position of monism, there are also ontological disagreements. Weak monism falls into the same error as strong monism in that it accepts that the reasons for a patient to make use of these accommodations lie exclusively in non-scientific matters. In other words, although it responds to religious and cultural disagreements, it makes the same mistake as one of the positions of strong monism: it does not consider conceptual disagreements.

Strong pluralism

Strong pluralism allows individuals to choose whether they want to be considered alive or dead, regardless of scientific issues. In Japan, for example, the law provides for a

pluralistic system of eligibility in the determination of death whereby individuals or their relatives can choose by which of two criteria (cardiorespiratory or neurological) they wish to be declared dead.

Neither strong nor weak monism questions the conceptual validity of the BD criteria; they simply equate such conceptual validity with other values such as religious or cultural values, giving them sufficient weight so that the neurological criterion can be rejected on the basis of such values.

What this kind of pluralism adds to simple accommodation is that death is conceived, not as a natural kind to be discovered by simple observation, but as a socially constructed phenomenon about which clinicians have no particular expertise and should not have the last word. Japan and New Jersey are territories where this approach has been discussed (Bagheri 2005; Morioka 2001; New Jersey Revised Statutes 2013). In both, the response of the authorities has been to seek a position that safeguards, on the one hand, the criteria for determining death proposed by the medical community and so far, accepted in almost all countries, and on the other, the voices of those who do not share those criteria. This task has been accomplished through the application of a dualistic model in the determination of death, which allows individuals to decide, in cases of complete BD, whether they should be considered alive or dead. By situating strong pluralism at the different levels, we have used above, we could say that this type of pluralism is situated in an ontological pluralism (insofar as neither of the two conceptions predominates) and can be situated in a conceptual and epistemological pluralism or monism. Finally, at the legal level, it would also be situated in pluralism. It is thus a form of ontological and legal pluralism.

Limits of strong pluralism

Strong Pluralism can be criticized, fundamentally, from two perspectives. First, it can be criticized for its lack of conceptual rigor. If we approach the determination of death from a perspective in which the weight, we give to empirical evidence is high, Strong

Pluralism lacks arguments to support it since its principles are based on law and ontology. We could question this type of pluralism from the perspective that moral, cultural and religious reasons should not have equal weight in the determination of death. However, this criticism could presuppose a false dichotomy between science and cultural or religious ideas, when in fact the ontological (metaphysical) question is inevitably implicated in the debate about the determination of death. Whether implicitly or explicitly, all sides operate with ontological assumptions, and it is unfair to describe all those who disagree with the scientific consensus (which of course has an ontological presupposition at its base) as operating from "cultural or religious" assumptions. Certainly, an objection against Strong Monism that justifies a Strong Pluralism (i.e., alien or at least not justified by scientific issues) may originate in a different metaphysics that is itself compatible with the scientific data used by the proponents of Strong Monism.

The second major problem with this type of pluralism lies in the difficulty of imposing legal limits on a question of an ontological nature. Unlike the weak pluralism that we will defend below, it is much more complex to limit the concept of death based on social, cultural or religious issues alone than the concept of death based on primarily biological issues.

Our proposal

So far, we have tried to describe in a structured way the different levels that exist to describe the phenomenon of death (Ontological, Conceptual, Epistemological and Legal). This structure has also helped us to categorize the ways of determining death in practice (Strong Monism, Weak Monism and Strong Pluralism). We have also used this categorization to mention some of the objections or problems that each of these practical approaches may have.

Our main objective in this paper is to outline a practical alternative to those mentioned above that is consistent with the levels of description and allows us to

reconcile the positions of those who disagree on what is considered death. To do so, we must first clarify what we mean by death.

Some authors have argued that death is a social, cultural or religious phenomenon (Bagheri 2007; Robert M. Veatch 1999) and that it should be society that agrees when we can define a person as alive or dead. This would be a proposal that could be framed within Strong Pluralism from different perspectives –legal, ontological, conceptual and even social–. Our conception of death, however, does not start from this premise, and in fact, we believe that it is a mistake not to grant biology the authority it deserves. On the other hand, a proposal of this magnitude presents a practical difficulty (almost impossibility) in establishing a (limited) set of definitions of death based solely on social considerations.

Other authors, as we have already mentioned above, consider death to be strictly a biological phenomenon (they defend an Ontological Monism) and whether or not they believe that there is a unique biological concept of what death is, they do defend that we should not take into account, in any case, extra-biological values to determine what it is to be dead.

In our case, we understand death as the irreversible cessation of the vital functions of an individual. A phenomenon that has a strong biological foundation but is also marked by a series of issues that go beyond biology (beliefs, culture, society). We could say that death has a big foot in biology and a small foot in culture (Youngner y Arnold 2001).

If we start from our definition of what it means to be dead, the solution to end the controversy in the determination of death will necessarily involve the search for a normative consensus on what we understand death to mean as a society under a biological framework. As we have shown in the section on controversies, many bioethicists have criticized, from different approaches, that BD is comparable to human death. On the contrary, those who believe that BD is comparable to human death consider that this phenomenon is solidly established. Some of these experts have

proposed other alternatives to clarify this criterion of BD or to change it to another criterion. Alan Shewmon listed some of the main alternatives for the determination of BD (D. A. Shewmon 2021).

Although these proposals are of great interest, we believe that they are solutions that do not take into account all aspects of this problem. Our proposal, however, does not aim to solve the problem per se (since for this it is necessary to go through a previous debate and seek a collective consensus), but aims to allow well-founded disagreements not to be disregarded while this controversy lasts. To this end, we believe that articulating a Weak Pluralism is the best theoretical and practical solution.

Weak Pluralism bases its rationale on the following reasoning: there is disagreement among experts as to which biological concept is the best for determining death, and furthermore, the choice of what it means to be dead involves not only factual issues. Because reaching consensus on which normatively mediated biological definitions are most appropriate is complex, we must allow people who have legitimate disagreements with the current model for determining death to object to being treated under that parameter as long as the controversy remains open.

To accomplish this, we propose to use Weak Pluralism: a concept that gives practical ability to these people to choose the criteria (cardiorespiratory or neurological) by which they want to be considered dead. Thus, a person who believes the way they can be determined dead is not really death –since they base their reasoning on the idea that the brain is not necessarily the integrating organ of our body– could be considered alive until they suffer a cardiorespiratory death.

At first glance, this proposal does not seem to be very different from Strong Pluralism or Weak Monism. However, the main difference lies not in how Weak Pluralism would be applied, but in its rationale and justification. As we have pointed out above, the justification of Weak Pluralism arises from the need to give a global answer to a problem at the ontological, conceptual, epistemic and legal level of our initial scheme. People

should have the right to decide by which criteria they want to be declared dead because, in fact, there is no expert consensus on whether a person in a state of full BD is dead or not.

If these disagreements as to when a person is dead or not are resolved (in a collective deliberation mediated by biology), we believe that the definition that has been agreed upon by default should be used, allowing people who still disagree with that decision to avail themselves of a sort of Weak Monism in which they can be treated as alive even if, de facto, society does not consider them as such. The limits of these accommodations would be mediated, again, by biology and by the range of disagreement that experts consider reasonable (generally, not accepting BD and being diagnosed in cardiorespiratory death).

Limits, Feasibility, and Risk of Pluralism?

Because of its ethical, legal, conceptual, and biological implications, we are aware that this proposal cannot escape some disputes, complex approaches, and uncomfortable questions. Far from dodging them, we believe that it is intellectually mature to address possible objections to our proposal and try to resolve them or at least dismantle them as far as possible.

Would it be acceptable for us to consider a body in an advanced and generalized state of decomposition as alive, just because that person, a long time ago, said that they should be treated as alive? Or conversely, would it be acceptable to consider an apparently healthy person, in their youth, to be dead just because they considered that their existence was not a form of being alive? Would it be acceptable for parents to consider their newborn baby to be dead? Are the limits set by the Harvard Ad Hoc Committee for the determination of BD equally valid for a deeply religious country (such as Israel or Iran) as for a country where secularism is firmly rooted (such as France)? Do Japan, or the state of New Jersey, entail an anomaly by accepting the disagreement in

the diagnosis of BD? Is there a problem in doing so? These are some of the questions that could be asked in relation to what the limits of pluralism are. Certainly, it is a problematic question for this proposal to which we must seek an answer.

One of the biggest problems in setting limits to pluralism lies in deciding how far we think it is sensible to extend the margins. While it is true, as mentioned above, that there are de facto countries that have bordered on at least one of the two criteria for determining BD, it is also true that in no case has it been decided to go further to broaden the criteria, for example, to include persons who are in a state of higher BD.

The “higher brain” standard of death defines death as the irreversible loss of function of the higher brain, which involves the permanent incapacity to return to consciousness (as opposed to a temporary incapacity to return to consciousness, for example during sleep). No jurisdiction has adopted the “higher brain” standard, but several scholars have defended it as the best way of reconceptualising death in modern medicine […] Proponents of the “higher brain” standard of death commonly argue that the essence of human life lies in being a person with some basic awareness or understanding of the self. On this view, death occurs when personhood is permanently lost (Monteverde & Rid, 2021).

A possible solution to this problem was formulated by Robert Veatch and Laine Ross in their book Defining Death: The Case for Choice in which they advocate agreeing on a range of reasonable positions within what is plausible. That are the three positions regarding the determination of death mentioned here, which, although they generate dissent among experts, are the only ones considered debatable (cardiorespiratory death, BD, and higher brain death) (Robert M. Veatch y Ross 2016a)

The argument employed by Veatch and Ross is precisely the one that would prevent our argument from falling down a slippery slope: from a conceptual perspective, we do not have the knowledge necessary to establish when a person is dead according to certain criteria. However, we do have the ability to determine which of those criteria are

the ones that are the margins of pluralism (by excess: cardiorespiratory criteria, by default: higher brain death).

Finally, it is important to note that the fact that a person can choose one or the other definition of death does not imply that they must in fact choose it, only that if they wanted to choose it, they could do so. That is, regardless of the limits set by experts, no one can force another person to choose a certain criterion of death, they can only offer the choice.

Other common criticisms of pluralism are related to its unfeasibility. However, in this article two key issues have been put forward to defend pluralism against this criticism: on the one hand, it has been shown that, in certain communities, de facto a legal pluralistic system already exists, which invalidates theses related to the chaos that can be generated by extracting this debate from the purely medical sphere (Japan and New Jersey). On the other hand, the mere fact that the theory is formulated in legal terms implies that in a democratic country there should not be insurmountable obstacles to deliberation and subsequent implementation of the decisions taken in that deliberation.

The way to corroborate that a person wants to be treated differently in the determination of their death can be easily reflected through their own advanced living will or through their relatives. As in some cases with organ donation, the procedure for finding out whether someone wanted to be treated in an exceptional way should not make the situation more complex.

Problems arising from a change in a person's life status could indeed be aggravated in the case of a pluralistic system. Thus, we could think that a self-interested and malicious son (or perhaps a son who is neglected by society and in dire social circumstances) would bet on keeping his father linked to a series of artifices by considering him legally alive in order to collect his pension for a longer period of time. We could also think of the opposite case, where this same son decides, while firmly believing that his father is alive, to proceed to disconnect him in order to receive a luxurious house in inheritance.

For these reasons, some authors have been careful to protect themselves from such criticisms in relation to pluralism (or similar alternatives) in death by trying to counter such accusations with arguments that show that, while some might try to take advantage of the loopholes of a possible implementation of a pluralistic system, there would be no substantive differences with the problems that exist today in relation to those who are diagnosed in an irreversible coma or minimally conscious state (Robert M. Veatch y Ross 2016a).

Just as we assume that there may be abuses in matters such as euthanasia or therapeutic obstinacy, we must also assume that there may be abuses if we were to apply a pluralistic model. While it is true that society can impose mechanisms to prevent these abuses, we could never completely eliminate them, only fight vigorously to try to keep them to a minimum.

Conclusions

In this paper we have tried to offer a novel response to a problem that is becoming a classic in the bioethics literature and that continues to cause rivers of ink to flow among academics, health professionals and all those involved in general.

Our objectives at the beginning of this work were twofold: on the one hand, we wanted to conceptualize the different levels of discussion on this issue –ontological, conceptual, epistemic and legal–. On the other hand, we have proposed to outline what could be a practical solution to a theoretical problem that is difficult to solve.

Certainly, we believe that finding a consensus or a solution to this debate is an arduous and incredibly complex task. However, we believe that it is imperative to provide a refuge for all those people who have legitimate and reasonable disagreements with the way in which human death is currently determined. To this end, we have designed this proposal which we hope will serve to resolve the practical problems arising from the

theoretical controversy, allowing all parties to feel satisfied during the time it takes to find a reasonable and reasoned solution.

List of abbreviations

BD = Brain Death

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Rethinking the Role of Experimental Philosophy in Bioethics

In their target article, titled “The Place of Philosophy in Bioethics Today” (Blumenthal-Barby et al. 2022), Jennifer Blumenthal-Barby and colleagues provide a powerful argument for the role of philosophy in bioethics. They also put forth a thought-provoking explanation for philosophy’s declining role and offer certain recommendations for normative ethics to regain a central role in bioethical reflection. We share the authors’ concern that philosophy ought to preserve such a role but have a few comments that we believe could be useful.

Philosophers should be asking themselves why, in fact, the discipline’s relevance has declined over the last decades. In this regard, Blumenthal-Barby and colleagues raise an essential issue and list a series of factors that have likely contributed: the way scientific journals are published, the sources of funding, and how these affect the development of normative philosophy or even the compartmentalization of bioethics, so that philosophers remain “locked in their own departments.”

We agree with many of the reasons that Blumenthal-Barby and colleagues bring to the forefront. In our commentary, though, we offer an additional diagnosis: namely, that philosophers’ adherence to traditional approaches to ethical analysis is partly at fault for philosophy’s declining role. To see this, consider the authors’ own characterization of the distinction between descriptive and normative ethics:

> As Sulmasy and Sugarman argue in their book, *The Methods of Medical Ethics*, normative ethics is at the core of ethical inquiry, since it seeks to answer what ought to be done and not be done in a systematic and critical fashion. Descriptive ethics (e.g., of majority views or practices) cannot do this, nor can law. The mere fact that something is illegal or legal does not make it immoral or moral. (Blumenthal- Barby et al. 2022)

As Blumenthal-Barby and colleagues go on to note:

> Indeed, even major funding agencies such as the National Institutes of Health (NIH) in the United States seem to occasionally recognize that bioethics needs more foundational normative and conceptual work, above and beyond typically funded empirical bioethics and preference surveys. (Blumenthal-Barby et al. 2022)

We suspect this way of characterizing normative projects in bioethics as fundamentally distinct from descriptive research could partly contribute to the appearance of normative moral philosophy as an archaic pursuit. Instead, normative ethics should be seen as continuous with descriptive ethics—a research agenda that theorizes on the basis of the best available empirical evidence in order to advance normative ethics' proper objectives. For philosophical reflection to regain a prominent role in the bioethics academy, we argue that philosophers ought to engage more profoundly with findings from empirical and experimental bioethics.

In recent years, research on moral decision-making at the intersection of bioethics, cognitive science, and moral psychology has enriched our understanding of how laypeople and medical professionals' reason about questions of bioethical importance. Yet, only a handful of ethicists have taken to the task of distilling the normative relevance of these findings: philosophy can reclaim a role in charting theoretical and practical progress within bioethics by embracing this methodological reform and engaging in the normative analysis of the growing body of evidence on the cognitive basis of lay and expert bioethical reasoning.

In closing, we would like to draw on two examples from the published literature, which serve as a template for what an exercise in empirically-informed normative ethics could entail. These studies—which belong to a growing body of research in Experimental philosophical bioethics (Earp et al. 2020, 2021)—blur the traditional distinction between descriptive and normative bioethics. They raise questions in normative bioethics, whether theoretical ("How should we distinguish between killing and letting die?") or practical ("Does the irreversible cessation of an individual's brain function mark their

death?"); and then go on to pursue these questions by applying multidisciplinary methods that bring together the analytic tools of moral philosophy and the causal-explanatory tools of cognitive science. If we are right, seeing normative ethical work of this sort proliferate could dispel some of the perceptions in the broader academy that have relegated normative philosophy, as it is traditionally practiced, to a secondary role.

In our first example, we can observe how empirical evidence might be leveraged to make progress on philosophical questions of deep bioethical relevance. For instance, survey research has revealed that laypeople misunderstand and even reject the definition of brain death (DÍaz-Cobacho et al. 2022). What is the metaphysical relevance of laypeople's moral opposition to declaring brain death? To examine this question through a normative lens, it pays to first understand the relevance of moral attitudes on death determination in actuality. Let us imagine that a survey of health professionals' views reveals that many professionals are reluctant to diagnose a person's death if they themselves or their family oppose the diagnosis (Rodríguez-Arias, Molina-Pérez, and Díaz-Cobacho 2020). These results raise the possibility that death determination—as it is carried out in practice—is not exhausted by clinically relevant facts, but depends on the patient's and or their surrogate decision-makers' moral convictions. At first glance, this thesis can be seen as philosophically contentious; and, in this predicament, moral philosophy ought to play a lead role in discerning the normative implications of this empirical fact about death determination. For instance, this evidence could be leveraged in support of a pluralist approach toward death determination according to which, whether an individual is dead or not, can depend on a consideration of their personal values (Neiders and Dranseika 2020).

Our second example concerns a related bioethical debate: the distinction between killing and letting die. According to some bioethicists, this causal-descriptive distinction undergirds a moral differentiation: i.e., that limitation and refusal of treatment are not criminally prosecuted, whereas medically-assisted death (be it euthanasia or assisted

suicide) is. This argument rests on the premise that life-terminating actions (medically-assisted death) are seen as killing and life- terminating omissions (refusal of treatment) as letting die. In conjunction with the deontic premise that killing is wrong, this gives rise to the conclusion that medically-assisted death is wrong (while the refusal of treatment is permissible).

Yet, recent research in experimental philosophical bioethics (Rodríguez-Arias, Rodríguez López, et al. 2020) casts doubt on this argument, by providing evidence against its empirical premise. Participants encountered a series of vignettes involving end-of-life care and were asked whether the physician killed the patient or let the patient die, ended the patient's life or allowed it to end, etc. Participant's use of the killing/letting die distinction was unrelated to the active versus the omissive character of those actions, contrary to philosophical orthodoxy.

Instead, participants distinguished killing from letting die by considering the patient's preferences. If the patient preferred to live, the doctor was seen as killing them; and if the patient preferred to die, the doctor was seen as letting the patient die, regardless of whether the intervention was active or omissive in nature. Strikingly, this pattern was not weakened by medical training: medical professionals were equally likely to base their judgments of whether an action constituted killing or letting die on the patient's preference rather than the doctor's behavior. In this regard, this experimental study can be seen as reviving important philosophical questions about end-of-life care. Our initial normative reading of these findings is that they invalidate the argument against active euthanasia outlined earlier; yet there is ample room for normative moral philosophy to debate, build on, and help guide this research program so as to better answer the practical and theoretical questions that end-of-life bioethics faces.

Blumenthal-Barby and colleagues' piece highlights many of the obstacles in the way of normative philosophy's contribution to contemporary bioethics. When reflecting on this predicament it is natural to augur philosophy's demise. In our view, however, normative

ethics can continue to play a key role in guiding bioethical inquiry. However, for this resurgence of normative ethics to take place might require a methodological reform, in which normative ethicists engage more actively and directly with empirical and experimental research. As we hope our two examples illustrate, recent evidence in empirical and experimental bioethics raises normative questions with substantial practical implications. If normative philosophers were more actively engaged in the interpretation, scrutiny, and guidance of such empirical research programs, not only would these research programs stand to benefit, but normative philosophy might regain importance in contemporary bioethics.

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Public Perception of Organ Donation and Transplantation Policies in Southern Spain

The scarcity of organs for transplantation is a global problem that is internationally addressed by using different strategies, such as increased investment in health care infrastructure (eg, staffing transplantation coordinators at hospital facilities and different systems of economic remuneration for health care professionals involved in the donation and transplantation process), switching to an opt-out consent model for organ recovery [1,2], boosting public information through donation campaigns [3], and different schemes for organ allocation [4,5]. Spain has the highest rate of organ donors worldwide, with 48.9 donors per million people in 2019, well above international averages [6]. The country has a presumed consent model in which the family is systematically asked about the deceased's preferences and where family opposition is always respected [7]. Organ recovery relies on brain death donation (70%) and 2 types of donation after circulatory death (DCD): controlled DCD and uncontrolled DCD (25%) [7]. The organ donation system is structured in a multilevel transplant coordination system with decades-long investment in specific infrastructures designed for removing obstacles to donation. This includes staffing hospitals with transplant coordinators (mainly intensive care doctors) endowed with specific responsibilities to enable organ recovery through identification and inclusion of the donation option in end-of-life procedure [8].

Health professionals involved in organ donation may receive, on top of their regular salary, remuneration for their availability during organ donation on-call shifts. In some regions, including Andalusia, their activity and performance may also be remunerated [8]. A centralized organ distribution system guarantees countrywide access to urgently needed organs while simultaneously prioritizing local allocation [9]. Finally, emphasis is on the media as a form of swaying public opinion in favor of organ donation through proactive messaging, an ongoing effort to provide information, and case-by-case management of information crises [9].

The implementation of similar policies has contributed to raise organ donation rates in other regions, but remaining differences in organ availability between Spain and other countries suggest that cultural factors—-rather than only structural ones-—might be playing a role, too.

The success of any transplantation system is based on people's willingness to participate and public attitudes favorable to donation. Lower levels of public trust in health institutions can decrease organ supply and harm overall transplant performance. Despite some studies on the factors that influence people's willingness to donate in Spain, including their views on the consent model, we still do not know the extent to which Spaniards' attitudes toward donation may underlie the country's success [10—13].

In this article, we surveyed a representative sample of the population in Andalusia, Spain's southernmost region, to assess their awareness and general attitudes regarding organ donation and transplantation (ie, trust and willingness to donate) and their views on customary donation and transplantation policies: (1) presumed consent for organ retrieval, (2) allowing the families of the deceased to make decisions regarding organ removal, (3) allowing donation after brain death as well as donation after circulatory death, and (4) health professionals' remuneration based on donation activity. Finally, we explored their preferred criteria for organ allocation and their view on the notion that organ donation can facilitate family grieving.

Materials And Methods

Between October and December 2018, we carried out a survey coinciding with the Seventh Citizens' Panel for Social Research in Andalusia (PACIS/EP-1807). The region of Andalusia is especially interesting to study because its organ donation rate is higher than the national average (51.5 donors per million people) and it is both the most populated region in the country (8.5 million inhabitants) and one of the most diverse with 45% of its population living in urban centers (such as Seville, Malaga, Cordoba) and 17% in rural areas.

The sample, stratified by sex and age, was drawn from 1929 out of the 3700 people belonging to the PACIS Panel (its methodology is available at https://www.iesa.csic.es/pacis/) [14]. As a result, our final sample was formed by 813 people aged 18 and older. We calibrated the sample using the ranking method to the sex, age, education level, and municipal population size variables with figures from the total Andalusian population as a reference. The maximum sample error of the study is §3.5%. The questionnaire (available at https://osf.io/rvxhq/?view-only=7c4f82587ee14086abbd7697f3973fa6) was validated by several experts in bioethics and sociology. This type of validation allowed us to check that the questions (a total of 22 questions related to organ donation) were meaningful and important in the field in which we were working. The questionnaire was implemented through telephone surveys (46%) and online (54%) and lasted an average of 19 minutes (incidentally, no significant differences were found in the responses given by the 2 groups in our sample). Participants were compensated with 5 euros, which they could either keep or donate to a nongovernmental organization. The financial incentive is necessary for the recruitment of panelists and is a common practice in academic panels. This incentive was considered a sufficiently small amount to avoid low-income bias.

All procedures performed in this study were carried out in accordance with the European Charter of Fundamental Rights and with the Declaration of Helsinki and its

later amendments. The study protocol was reviewed by the Coordinating Committee on Biomedical Research Ethics of Andalusia (PEIBA 2521-N-20), which waived full review for this type of study. Written informed consent was obtained from all individual participants prior to participation.

The average age of the sample was 48 years; 52% of participants were women; 75% had high school or further education; 68% considered themselves religious; 26% stated they were quite or very observant; and 33% stated they had had some sort of close experience with organ donation or transplantation concerning a family member or close friend. Half of those surveyed chose to donate their reward for answering the questionnaire to a nongovernmental organization (Table 1).

The survey addressed questions on the following topics: (1) general attitudes toward donation and transplantation (ie, trust in the health care and donation/transplantation systems and willingness to donate), (2) awareness of the criteria for determining death and willingness to donate in 3 types of cadaveric donation circumstances, (3) awareness and attitudes regarding the consent model for donation and the role of the family, (4) attitudes on allocation criteria, (5) opinions on health professionals' remuneration based on donation activity, and (6) views on family grieving. Topics 2 and 4 were preceded by a briefing on cases regarding cadaveric donation and organ allocation options.

Statistical analysis of the data was descriptive and exploratory. First, we analyzed the relative frequencies of the most relevant questions for this study. Second, we used contingency tables to explore the role of sex, age, level of education, religion, and political affiliation on those questions using Pearsons's x2 tests. Only significant correlations with a P value ≤.1 were considered.

Results

A majority of the population surveyed displays trust in the public health care system (79%), and especially in the donation and transplantation system (93%), which most consider to be transparent (59%). Elderly people and those who classify themselves as politically left-wing tend to exhibit greater trust in the transplantation system. Three out of 4 people surveyed state that they would donate their organs after death and 62% would authorize organ retrieval for a family member whose wish to be or not to be a donor is unknown. A majority of those who wish to be donors (59%) but a minority of those who refuse donation (14%) have made a verbal or written record of their preference. Self-defined politically right-wing individuals and self-defined. Catholics significantly ($P < .05$) oppose donation more than other groups (see Supplementary Tables 1-4).

Table 1. Sociodemographic Data

Variable	Characteristic	Percentage
Average age	47.6	
Sex	Women	51.1
	Men	48.9
Level of education	Primary schooling or less	25.1
	Secondary schooling	45.6
	Higher education	29.3
Monthly income	≤€600	31.6
	€601-€1200	35.7
	€1201-€1800	14.4
	>€1800	10.1
Compensation	Chose to donate the €5 reward	52.8
Religion	Nonbelievers/atheists	27.3
	Religious	67.8
Degree of religious observance	Slightly or not observant	34.8
	Somewhat observant	26.8
	Quite or very observant	38.4
Close experience with donation or transplants	Had experience	32.8
	Had no experience	54.7

Percentages do not add up to 100% because we have not included the nonresponders.

When presented with prototypical scenarios for the 3 situations in which cadaveric donation occurs, a minority of those surveyed recognize organ recovery as legal in cases of brain death (19%), controlled DCD (22%), and uncontrolled DCD (21%; Table 2). A similar proportion assert that they would agree to have their organs removed for transplantation purposes in each of the 3 aforementioned situations.

Over half of respondents feel somewhat or completely uninformed on the requirements needed to be an organ donor (Table 2). A majority erroneously believe that Spain is governed by an opt-in system or recognize being unaware of the consent model currently in force for organ recovery in Spain. Participants' opinions on the presumed consent model are divided: 30% oppose it, 27% support it, and the remaining 44% are undecided on the subject. When asked to choose from among 3 different models, those surveyed are divided between 44% who side with opt-in, 40% who prefer opt-out, and 13% who choose the mandatory choice model. Nonbelievers or atheists are more inclined to the opt-out model than are Catholics. They also are more familiar with the current model in force in Spain than Catholics and those who profess other beliefs. People who identify as ideologically more left-wing mostly prefer an opt-out consent model, as opposed to those in the center or the right-wing, who mostly support the opt-in model (see Supplementary Tables 1-4).

Table 2: Attitudes and Awareness Regarding Donation and Transplantation, Criteria for Determining Death, and Consent Models for Donation

	Yes (%)	No (%)	Does Not Know (%)
Would wish to donate his or her organs after death	75.7	8.9	13.4
Has expressed at some point his or her wish to be a donor	58.5	39.5	—
Has expressed his or her refusal to be a donor	13.7	84.2	—
Would authorize organ procurement for a relative who had not expressed a preference regarding donation	62.1	24	11.7
Considers the public health care system in Spain as trustworthy	79.4	20.1	0.3
Considers the Spanish organ donation and transplantation system as trustworthy	92.6	3	3.9
Believes that the organ donation system in Spain is transparent	59.4	15.9	18.6
Believes that, in Spain, there is a scarcity of organs for transplants	66.7	19	9
Believes that donating organs is a citizen's duty	74.2	17.7	1.9
Is it legal in Spain to remove vital organs in the following situations?			
Brain death	18.9	55.5	21.5
Uncontrolled DCD	20.5	37	37.5
Controlled DCD	21.5	32.6	40
Would you agree to having your organs removed for transplantation purposes in the following situations?	Yes (%)	No (%)	Undecided (%)*
Brain death	22.3	29.9	42.1
Uncontrolled DCD	18.6	27.7	47.6
Controlled DCD	20.8	20.1	52.7
	Yes (%)	No (%)	Does Not Know/ Undecided (%)*
Considers him or herself sufficiently informed on the requirements needed to be a donor	15.7	55.4	28.8
Is aware of the presumed consent model currently in force	28.3	59.5	11.6
Agrees with the presumed consent model currently in force	26.7	29.5	43.7
Prefers the presumed consent model for organ procurement	39.7		
Prefers the explicit consent model for organ procurement	44.4		
Prefers the mandatory choice model for organ procurement	13.1		

Percentages do not add up to 100% because nonresponders are not included.
DCD, donation after circulatory death.
* Feels somewhat informed (halfway point on the Likert scale) or is neither in agreement nor disagreement (halfway point on the Likert scale).

Table 3: Preferred Role of the Family and Deceased Expressed vs Nonexpressed Preferences

When the deceased has expressed a preference, what role should the family play?	The medical team should ask the family whether the deceased person had changed his or her opinion and should respect the deceased's most recent wishes	The medical team should ask the family whether the deceased person had changed his or her opinion but should always respect the family's wishes	The family should not be consulted, nor should it intervene in the decision
The deceased did not wish to be a donor	60.6%	20.6%	17.2%
The deceased wished to be a donor	63.8%	13.5%	21.6%
	Conveys the deceased's wishes	Decides according to their own preferences	The family is not consulted nor intervenes in the decision
When the deceased has not expressed any preference, what role does the family play?	64.30%	20.40%	10.10%
What role should the family play?	69.1%	17.1%	9.5%
Should the family have the last word on the decision regarding organ removal?	Yes	No	Ambivalent
	23%	19.1%	56%

Percentages do not add up to 100% because nonresponders are not included.

Table 4: Priority of Other Allocation Criteria Over Utility of Transplantation and Economic Incentives, Organ Conscription, and Family Grieving

Priority of Other Criteria vs Life Expectancy Following Transplantation	Yes (%)	No (%)
Urgency	73.9	19.2
Time on waiting list	66.7	23.3
Pediatric age	56.0	24.4
Rare immunologic characteristics	77.8	13.2
Do you agree with the following statements?		
Health care professionals should be remunerated depending on the number of deceased people who become organ donors	10	83.4
It should be mandatory to remove deceased peoples' organs, regardless of the preferences they may have expressed while still alive	25.3	65.9
Organ procurement for transplantation helps families to feel better following the death of their loved one	78.4	9.4

Percentages do not add up to 100% because nonresponders are not included.

While making decisions on organ donation, 3 distinct situations may arise: the deceased expressly consented to donate, expressly refused to donate, or failed to express any preference. During the donation interview, the preferences of the deceased are systematically explored through the family, who are nevertheless allowed to make the ultimate decision to authorize or oppose organ recovery. Most respondents consider that whenever the deceased had expressed a preference, either in favor or against donation, “the medical team should ask the family whether or not the person had changed their opinion, because one should always respect the deceased´s most recent wishes” (Table 3). When the deceased had not expressed any preference, most respondents consider that “the family should convey what they believe to have been the deceased’s wishes.”

In clinical practice, families are systematically asked to make a decision when the deceased has not. We wished to further explore the population’s awareness of this policy and learn its opinion on the subject. One out of 10 surveyed erroneously think that, in Spain, the family is not consulted and does not intervene in the decision. The remaining participants are divided among those who think (in accordance with current law) that the family conveys what it believes the deceased would have wished and those who think (as actually occurs in practice) that the family can also decide according to its own preferences. When informed that, in Spain, if the deceased’s wishes are not known, the

family is allowed to decide, 23% of those surveyed approved of this practice and 56% were ambivalent on this point (Table 3).

When allocating vital organs, respondents consider utility of transplantation (defined as 2 times the increment in recipient life expectancy following transplantation) to be less important than other criteria, such as the lesser likelihood of obtaining a suitable organ, urgency, time on waiting list, or the age of the recipient (Table 4).

Most participants reject both health care personnel involved in the organ recovery process being paid according to the number of deceased people who become organ donors and the option of implementing an automatic organ recovery model, also known as a “confiscatory” or “conscription” model. Finally, regarding the effect of donation on family grieving, a majority of participants believe that organ recovery for transplantation helps family members to feel better following the death of their loved one (Table 4).

Discussion

Our study is subject to certain limitations related to the administration method (mixed: online and via telephone) and the sample (a representative panel of the Andalusian population, which might not be extrapolated to the Spanish population as a whole). Given the generally lower response rates to surveys and increasing costs associated with obtaining samples that meet appropriate quality standards, it is ever more common to resort to online surveys, either alone or combined with other data collection modes. The creation of the online survey was accompanied by a great deal of methodological work that analyzes whether or not the survey’s results are comparable to the findings obtained through other procedures [15]. Based on the conclusions drawn from such literature, one of the most straightforward findings is that, when faced with questions on a sensitive topic, self-administered modes usually provide more precise answers than those involving an interviewer [16]. In addition, social desirability bias may be more pronounced in panel-based online surveys because anonymity is lost from the moment, we address

participants by name. Given that this study deals with organ donation, social desirability and altruism bias may slant our results toward more favorable attitudes on donation (for example, a stated willingness to donate at a higher than aver- age rate). When analyzing whether or not participants who decided to donate the 5 euros tend to expressed greater willingness to donate than those who kept them, we have ascertained that this is not the case, which would suggest that social desirability, in this case, does not affect altruism.

Overall, our study shows mostly favorable attitudes toward organ donation in Southern Spain and high levels of trust in the transplant system. This is reflected through a high stated intent to donate one's own organs after death and to authorize organ removal for a family member. Our study also reveals a certain degree of societal misunderstanding regarding the presumed consent model currently in force in Spain and the clinical criteria for declaring death. Conversely, a majority are aware of the decisive role that families play in organ donation and agree with such a role, which may mitigate other doubts regarding donation procedures. Further research on the social perception of organ donation policies may enable policymakers to better assess opportunities to foster public support of organ donation and to promote socially acceptable organ procurement policies.

With regard to attitudes toward donation, Spain is slightly above European averages on willingness to donate one's own organs (61% vs 55%) and authorization for the recovery of a relative's organs (59% vs 53%) [17]. According to national studies, stated willingness to donate in Spain in 2003 and 2011 was between 63% and 67% [11,13]. These figures were higher in Andalusia, where 86% of the population expressed willingness to donate [18]. Our survey yielded intermediate values, with 76% of Andalusians stating their willingness to donate.

In 1993, 1999, and 2006, around half of Spaniards indicated that they were willing to authorize organ retrieval for a family member without knowing the latter's wishes on the subject [12], and a 2002 study on the Andalusian population reported an increase in

this proportion to 71% of those surveyed [19]. Our regional study also shows that 62% of Andalusians would authorize organ recovery for a relative whose wishes were unknown, as opposed to 24% who would not. In practice, the actual rate of family authorization is even higher: 86% in Spain and 89% in Andalusia [18]. Although these figures include both cases (deceased's willingness to donate and unknown wishes), the high conversion rates (from potential donors to real donors) observed in Spain may be associated with coordination teams' training and skills in building trust with families along the donation process [20].

High donation and low family opposition figures may also be explained by Spaniards' level of trust in their transplantation system. This study reveals respondents' high level of trust in the public health care system (79%) and transplantation system (93%). Euro- pean data on the public's rating of the overall health care system indicate that, on a scale of 1 (very poor) to 10 (very good), the average rating in European countries in 2008 was 4.75, whereas in Spain it was 6.12 and in Andalusia it was 6.28 [21]. In 2016, the rating of the health care system in Spain continued to be higher than that in European and non-European countries.

Spaniards' high confidence level in their transplantation system contrasts with their awareness of it. Indeed, over half of those surveyed consider themselves to be somewhat or completely uninformed on the requirements needed to be donors. The widespread lack of awareness regarding Spain's consent model has been reported in other presumed consent countries [22]. This may impede autonomous decision making and the fulfillment of people's posthumous wishes concerning organ retrieval, especially among the minority who oppose the removal of their organs after death. In Spain, all adults are considered to be organ donors unless they expressed their refusal in life. However, 60% erroneously believe that they would not be considered as donors unless they explicitly say so, and 12% acknowledge not knowing the default policy on this issue. The risk of procuring organs from people opposed to donation only affects a minority (9%

according to our survey) who assert their opposition to donation. Notwithstanding, most of this subgroup did not express its opposition in any way (84%). In fact, the risk of frustrating individuals' nonexpressed refusal to donate may decrease as a result of involving the family in the decision-making process. In other words, people may trust families to represent their posthumous preferences regarding organ retrieval, which could explain why they fail to make them explicit. A perhaps relevant difference between opt-in and opt-out jurisdictions is that citizens living in presumed consent systems tend to be less aware of their model of consent for organ donation than citizens in opt-in countries [22]. This study suggests that lack of awareness about the presumed consent system in force may account for the failure of those who reject organ donation to explicitly express their refusal. However, lack of knowledge on the opt-out model may be attributed to the fact that presumed consent is not applied de facto in Spain. Indeed, in practice, transplant coordinators do not proceed with organ retrieval unless the deceased's family previously authorized it. Therefore, family members end up having the last word: they may authorize organ recovery in the absence of the deceased's stated wishes, and they may even oppose recovery when the deceased had expressed their wish to be a donor [23,24]. Reassuringly, our results suggest that most people are familiar with this situation: only 1 out of 10 Andalusians erroneously believes that the family plays no role in the decision regarding recovery. When directly surveyed on their opinion regarding the current model of presumed consent, participants in our survey display less opposed attitudes than in other studies. In preliminary surveys conducted in Southern Spain, between 65% and 75% of participants opposed presumed consent [13,25,26]. In our study, 30% of those surveyed expressed their opposition to this model (once briefed on the opt-out model currently in force), whereas 44% asserted that they neither agree nor disagree with the model. Furthermore, when offered various options, the proportion of those who preferred presumed consent (40%) was comparable to the proportion of those surveyed who preferred the explicit consent model (44%). Most of the Andalusian

population are not only familiar with the key role afforded to families in the decision-making process for organ recovery but also approve of them having such a key function. The fact that only a minority (19%) disapprove of family members making that decision suggests that our participants mainly trust the criteria of their loved ones to uphold and defend their posthumous interests. We venture that the high degree of confidence that Spanish society places on family bonds may end up reducing other concerns regarding organ recovery practices−-for example, those expressed with regard to death diagnosis—thereby neutralizing any related objections.

Given widespread practices of donation after brain death and DCD and the fact that the public displays a generic predisposition favorable to donation, it is still surprising that 3 of 4 participants refuse donation or doubt whether or not to donate, when presented with a schematic description of the prototypical clinical situations in which cadaveric donation actually takes place: brain death, controlled DCD, and uncontrolled DCD. This finding, which apparently contradicts the overall willingness to donate, may suggest that support for donation among the surveyed population is somewhat superficial: although favorable to donation, uncertainty arises when they become aware of the details of the specific clinical circumstances in which donation actually takes place. Alternatively, this finding may signal that participants have erroneously assumed that the scenarios describe clinical situations where candidates for organ recovery were still alive. Despite the fact that the description of each case reflected the fulfillment of the legally established criteria for being declared dead, the words death and dead were deliberately omitted. In support of this second hypothesis, we should highlight that the majority did not acknowledge these situations as clinical scenarios in which organ recovery is legal.

The ethical problems associated with organ allocation for transplantation are usually explained as a compromise between transplant utility—understood as the optimization of this resource and measured in terms of recipient's life expectancy [27]—and other competing non-utilitarian criteria, such as urgency, time on waiting list, pediatric age, and

rare immunologic characteristics. A recent systematic review on general public preferences [28] showed that the preferred organ allocation criteria is recipient's life expectancy corrected for urgency, which the authors called "the ethical rational utilitarian model" [28] (p.487) and which accounts for urgency. Another systematic review also encountered a preference for utilitarian criteria among health care professionals, which is not the case among patients, who mostly lean toward urgency [29]. Our study shows that a majority of the public prefers allocating organs based on nonutilitarian criteria, which is consistent with other surveys on allocation conducted over the last 2 decades within diverse segments of the population and in different countries [30,31]. Further research is needed to better understand lay people's preferred moral pathways in organ allocation.

Conclusions

This study shows attitudes within a population in southern Spain mostly favorable to organ donation and the transplantation system. Most of those surveyed trust their transplant system, and this is reflected through a high stated intent to donate their organs after death and to authorize organ removal for a family member, even when the latter's preferences on the subject are unknown. Our study also reveals a certain degree of societal misunderstanding regarding the presumed consent model currently in force in Spain and regarding the legality of procuring organs from candidates for donation who fulfill the clinical criteria for either brain death or circulatory death. Conversely, a majority are aware that, in Spain, families of the deceased actually play a decisive role, and most of those surveyed do not express opposition to families being given such a key function. Awareness that families perform this key role in final decision making may explain why so few Spaniards, including those who refuse to donate, express their preferences in written form. It may also reduce or mitigate other doubts or ethical objections that the population expresses regarding donation procedures, such as those related to presumed

consent and ambivalence regarding the criteria for determining donors' death. Further research on the social perception of potentially controversial organ donation policies may enable policymakers to better assess opportunities to foster public support of organ donation and to anticipate possible threats to the trust citizens place in donation and transplantation policies.

Supplementary Materials

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.transproceed.2022. 02.007.

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The brain death criterion in light of value-based disagreement versus biomedical uncertainty

Since the introduction of a new criterion for determining death (i.e., the brain death criterion) in 1968, the research community has been embroiled in debates about whether this criterion should be considered valid for declaring an individual dead. Some authors have suggested that, while the question of when a brain (and its brainstem) is completely dysfunctional is a purely scientific and biomedical matter, the moral and legal implications of this diagnosis transcend the boundaries of science (Youngner et al. 1999). Moreover, even among authors who defend that death is reducible to biological facts, many question whether these facts are captured by the brain death criterion (Shewmon 2001).

In recent years, there have been a number of highly visible cases that stirred controversy around the determination of death by neurological criteria (DNC): The cases of Archie Battersbee or Jahi McMath illustrate (Lewis 2023) the families' objections to a loved one being declared dead on neurological grounds. Some of these objections are rooted in distrust about the tests that evaluate brain death, others in the belief that death occurs only when circulatory and respiratory functions cease, and/or the suspicion that DNC is motivated by the opportunity for organ retrieval (Lewis 2023).

Family appeals to the application of DNC have typically appealed to either fact-based (i.e., scientific and medical) or value-based (i.e., religious and cultural) rebuttals of the brain death criterion. Whether these appeals are perceived as legitimate reactions to the determination of DNC is an open question that lends itself to empirical scrutiny. The present commentary reports the results of a vignette-based experiment designed to answer this question. In a between-subjects design, 234 participants from the United Kingdom (median age: 47 years old; 49% male; 50% female, and 1% non-binary) were randomly assigned to consider one of two rebuttals (science-based vs. value-based). Inspired by the Archie Battersbee case (discussed in the target article; Lewis 2023), the vignettes described a diagnosis of a patient's brain death:

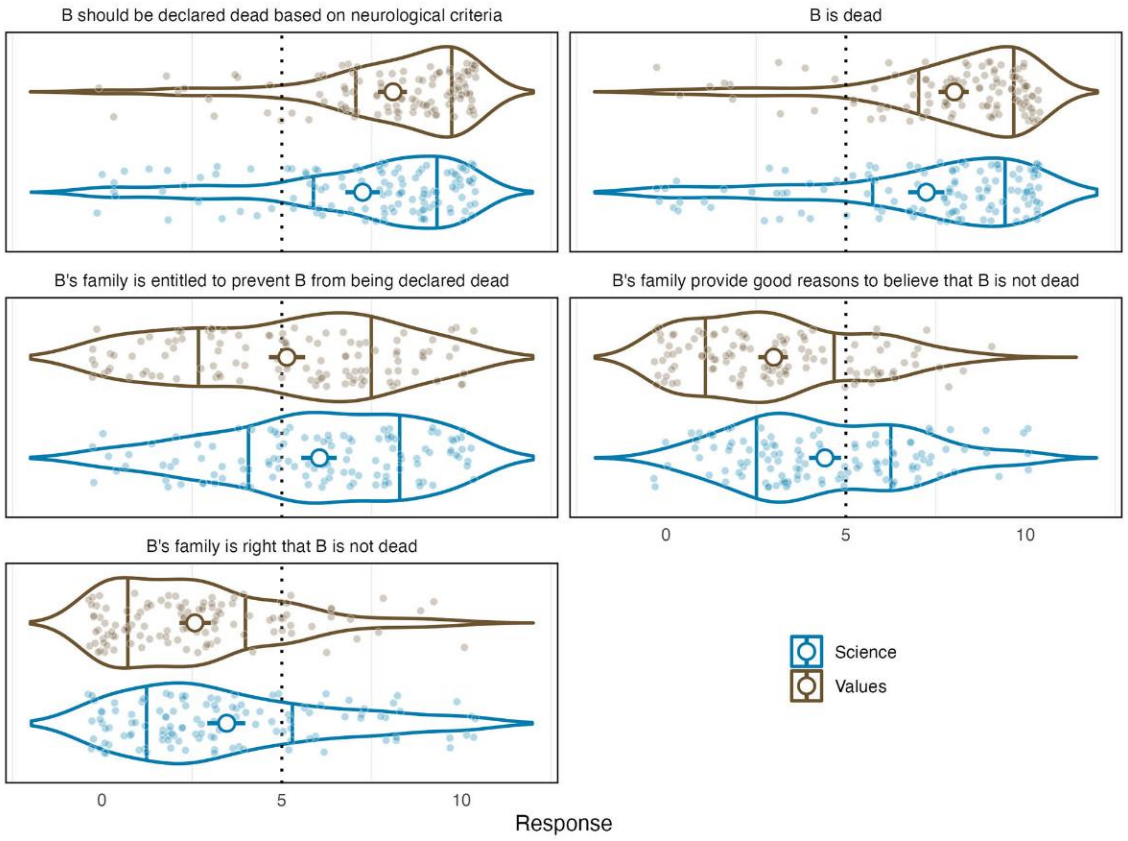
> B is a 12-year-old boy who lives in the UK. B has suffered a hypoxic-ischaemic brain injury (his brain was deprived of oxygen and blood) during a 40-minute cardiac arrest. An initial medical assessment has revealed severe global cerebral dysfunction. A second examination has confirmed no evidence of brain activity. A further and more detailed test has shown severe and irreparable lesions [...].
>
> In light of this evidence [...] it has been suggested to the court and the family that there is strong evidence to declare B dead on this criterion [DNC], and the medical team has recommended that artificial life support be withdrawn.

The manipulation concerned the grounds on which B's family objected to the determination of B's death by neurological criteria. In the Science condition, the family objected based on what we called 'medical and scientific grounds', alleging that according to "many biomedical experts, the available scientific evidence dictates that a person's death cannot be established by neurological criteria but only by cardiac criteria (i.e., when the heart stops)." Meanwhile, in the Values condition, the family objected on 'moral and religious grounds', alleging that according to "the family's religious beliefs, holy scripture dictates that a person's death cannot be established by neurological criteria but only by cardiac criteria (i.e., when the heart stops)." Participants were then asked to provide their opinion on various questions regarding B's death, by using an 11-point scale: (Q1) whether B should be declared dead according to neurological criteria, (Q2) whether B was dead, (Q3) whether B's family is entitled to prevent B from being declared dead, (Q4) whether the family provided good reasons to believe B is not dead, and (Q5) whether the family is right that B is not dead.

Before turning to the differences between science- and value-based rebuttals, it may be informative to consider the aggregate pattern of results: As shown in Figure 1, participants believed that B was dead, should be declared dead and that the family provided bad reasons to believe that B was not dead.

Responses to the question of whether the family is entitled to prevent B from being declared dead were divided: Overall, participants tended to recognize the family's right to prevent B from being pronounced dead—in seeming tension with their general conviction about B's death. Taken together, these results imply some acknowledgement of the right to object to a loved one's death determination even in the face of substantial evidence that they are indeed dead.

Figure 1. Violin plots of each response in the Science and Values conditions. Vertical lines correspond to the 1st and 3rd quartiles, and the circle represents the mean and 95% confidence interval.



Turning to the differences between rebuttals, we observed a small, but significant, preference for arguments from scientific disagreement over value-based appeals (see Table 1): Participants reported that the family provided worse reasons (to believe that B is not dead) when appealing to religious conviction than when appealing to science, $t(232) = 4.60$, $p < .001$, Cohen's $d = 0.60$, and were also more likely to report that the family was wrong when they opposed the DNC on religious grounds relative to scientific

grounds, t(227) = 2.63, p = .009, Cohen's d = 0.34. Similarly, appeals to scientific indeterminacy weakened participants' belief that 'B is dead', t = -2.26, p = .025, Cohen's d = -0.29, and conviction that 'B should be declared dead' based on neurological criteria, t = -2.58, p = .010, Cohen's d = -0.34—by comparison to religious opposition. Scientific disagreement also promoted participants' recognition of the family's right to object to DNC, t(229) = 2.43, p = .016, Cohen's d = 0.32. These effects, however, were small overall—implying a modest effect of appeals to scientific authority.

Table 1. Descriptive Statistics by Experimental Condition.

	Science			Values		
Item	**n**	**M**	**SD**	**n**	**M**	**SD**
(1) Should B be declared dead based on neurological criteria?	120	7.25	2.76	114	8.10	2.24
(2) In your personal opinion, is B dead?	120	7.24	2.92	114	8.02	2.31
(3) Is B's family entitled to prevent B from being declared dead?	120	6.05	2.76	114	5.14	2.96
(4) B's family provides good reasons to believe that B is not dead.	120	4.42	2.43	114	2.99	2.31
(5) In your personal opinion, is B's family right that B is not dead?	120	3.47	2.83	114	2.59	2.31

In sum, participants appeared to be unpersuaded by the family's rebuttals (though scientific indeterminacy weakened this tendency), and stood by the medical team's determination of DNC–providing evidence that laypeople do not categorically oppose neurological criteria for death determination (see Neiders and Dranseika 2020). In this regard, people may primarily view health professionals alone as the primary decision-makers in the diagnosis and determination of death.

At the same time, our findings document people's appreciation of the wishes of family members who object to DNC (whether on scientific or religious/cultural grounds). In particular, though participants overwhelmingly considered B in fact dead by neurological criteria, they simultaneously acknowledged the family's right to prevent B from being declared dead. This finding dovetails with some existing proposals to address

the bioethical dilemma posed by DNC, and sketch a potential solution for cases like those of Archie Battersbee or Jahi McMath: namely, to implement a pluralistic model that allows individuals to choose the criterion by which they will be considered legally dead (Díaz-Cobacho et al. 2023), even in the face of growing biomedical arguments for the adoption of neurological criteria.

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Death Determination and Clinicians' Epistemic Authority

Requiring family authorization for apnea testing subtracts health professionals' control over death determination, a procedure that has traditionally been considered a matter of clinical expertise alone. However, whether or not this is only a matter of clinical expertise is itself being debated, with some bioethicists arguing that giving families such decision-making authority is highly inappropriate (Paris et al. 2014) and others suggesting that physicians' unilateral diagnostic procedures—against the family's opposition—is unacceptable (Muramoto 2016). Berkowitz and Garrett (Berkowitz and Garrett 2020) refer to evidence suggesting that most health professionals (78%) disagree that prior consent should be obtained for apnea testing (Lewis et al. 2016). In this commentary, we first provide evidence showing that health professionals' (HPs) disposition to act on death determination without family's prior consent could be much lower than that referred to by Berkowitz and Garrett. We hypothesize that HPs may have reservations about their own expertise as regards death, and may thus hesitate to impose their views on patients' families.

We then address the theoretical question of clinical expertise in death determination by distinguishing judgments about facts (e.g., the presence or absence of spontaneous breathing) from interpretations given of these facts (i.e., their meaning for the vital status of an individual). We argue that, while clinicians may claim some expert authority on the former, they hold no particular authority on the latter.

We presented a scenario involving a brain-dead individual to a total of 587 American, French and Spanish health professionals (HPs) likely to be involved in the process of organ procurement (INCONFUSE Study; Methods available in (Rodriguez-Arias et al. 2013)). First, we explored their knowledge of the vital status—alive or dead—legally granted to that individual in their jurisdiction, and then their personal belief regarding the individual's vital status. The majority of respondents both correctly identified that individual as legally dead (n ¼ 488, 83%), and had the personal belief that

the individual is dead (n ¼ 551, 94%). Those believing that the individual is dead were presented a further scenario followed by two additional questions.

> Through his living will, you know that Patient A refused to be considered as dead in such circumstances. He also wanted the life-sustaining medical treatments to be maintained. His family agrees with his wishes. In your opinion, should mechanical ventilation be withdrawn from Patient A against patient and family wishes? In your opinion, should the death of Patient A be declared against patient and family wishes?

Almost half of the respondents (49%) answered that mechanical ventilation should not be discontinued and 41% answered that death should not be declared if the individual and his family members refused so (Table 1). American HPs were the least likely to believe that mechanical ventilation should not be discontinued ($p < .05$). Actual knowledge of the legal status of brain death only slightly changes these figures: 45% still thought that mechanical ventilation should not be discontinued and 36% thought that death should not be declared despite knowing that the individual is legally dead.

These results show discrepancy among HPs on whether prior informed consent and family authorization for the withdrawal of ventilator support and death determination should be considered, with a significant minority of them preferring not to unilaterally withdraw ventilator support and not to declare death against the family's opposition.

The moral importance of respecting community bonds and family-doctor trust, on the one hand, and HP's fear of litigation with families—a reason invoked by 48% of HPs in a survey (Lewis et al. 2016) on the other, are reasons that may partially explain HP's reluctance to contravene family preferences. While "defensive" uses of patient consent and family authorization are not uncommon in countries like the US where medicine has undergone a process of increased juridification, this is at odds with our results showing that a higher proportion of American—compared to Spanish and French—HPs would withdraw mechanical ventilation despite family opposition. We suggest a different interpretation.

Even though most clinicians know and personally endorse the legal criteria for declaring death, some may still feel uncomfortable with the concept of death and hesitant with the idea that brain death really equates to death. This hypothesis is backed by other studies showing that neurologists and other HPs with expertise in neurocritical care and related disciplines do not have a consistent rationale for accepting brain death as death (Joffe et al. 2012; Youngner et al. 1989) and believe that brain death is not the same type of death than traditional circulatory death (Wahlster et al. 2015; Rodríguez-Arias et al. 2013).

In the U.S. and abroad, death is described in legislations and medical textbooks as the cessation of specific functions of the organism: circulatory and respiratory functions for the cardiopulmonary criterion, and all brain functions for the neurological criterion. Clinicians have an undisputed expertise in testing patients and assessing the presence or absence of these functions. Their authority relies on their epistemic competence on physiology: they are the most knowledgeable among us to determine when an organic part or system has stopped functioning. Physicians have no reason to feel uncertain about their epistemic authority on facts related to human physiology.

A different matter is the interpretation of these physiological facts as signs of life or death of the individual, from a biological perspective (Gervais 1986). In particular, is the irreversible cessation of all functions of the entire brain a necessary and sufficient condition to determining the death of the organism as a whole? This question has been at the center of a decades-long controversy in the literature with no consensus in sight (Nair-Collins et al. 2015). Academic experts on this topic do not agree on why or even whether brain death equates to death. Despite international legal consensus, brain death as an unequivocal sign of human death is not still established as a scientific fact. Although clinicians may know that an individual is dead from a legal perspective, and even though they may personally believe that the individual is dead, they actually don't know if this is also true from a scientific perspective.

Table 1. Health professionals' knowledge and attitudes toward brain death and disposition to act without family's prior consent

	France	Spain	US	Total (%)	*p*.
Patient A is legally dead (knowledge) (*n* ¼ 587)	193 (87)	160 (81)	135 (80)	488 (83)	.304
Patient A is dead (personal opinion) (*n* ¼ 587)	206 (93)	188 (95)	157 (93)	551 (94)	.734
Mechanical ventilation should not be withdrawn against his and his family wishes (*n* ¼ 521)	94 (50)	98 (55)	63 (40)	255 (49)	<.05
Death should not be declared against his and his family wishes (*n* ¼ 514)	83 (45)	66 (38)	61 (39)	210 (41)	.294

Note: The percentages for items 3rd and 4th (additional questions) were derived from the total of "yes" and "no", excluding "don't knows". For all items, p values are derived from chi-square tests in agreement with each item

The third phase in the process of death determination is the interpretation of the biological condition of the organism in ontological terms. Ontology refers to a more fundamental question: what sort of property or phenomenon is death? Is it a biological fact that we just observe, or rather a social construction that we decide upon agreement? Death touches deeply held personal and religious beliefs, and its social, moral, and spiritual implications are constitutive of a society's sense of itself. However, our modern medical conception of death relies on the assessment of physiological facts alone—in particular the cessation of specific functions of the body—leaving aside all other non-biological considerations. While physicians have an undisputed expertise in their judgments on facts about human physiology—the presence or absence of brain functions–, they may feel less authoritative in their interpretations of these facts in terms of life and death, especially as these concepts' meaning and implications exceed by far the limits of their medical training and competence.

Berkowitz and Garrett's argument in support of prior informed consent for apnea testing (PICAT) as a tactic to oppose death determination by neurological criteria is based on an ethical rationale—the potentially iatrogenic nature of the test,—a legal

rationale—the fundamental right to refuse non therapeutic interventions,—and a pragmatic rationale—that PICAT would not dramatically impact clinical practice or allocation of scarce resources. The interpretation of our results suggests a more fundamental argument for PICAT, based on an epistemic rationale that may turn Berkowitz and Garret's threefold argument unnecessary: that death determination by neurological criteria—including apnea testing—exceeds the limits of clinical expert authority.

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A letter to the article “Whole Body Gestational Donation” published by Anna Smajdor in Theoretical Medicine and Bioethics

In her paper "Whole Body Gestational Donation," Anna Smajdor [1] proposes a novel mental experiment in which, along the lines of that already proposed by the philosopher Rosalie Ber [2], women __and perhaps men__ who have died according to brain death criteria, may be used to gestate babies. Hence, Whole Body Gestational Donation (WBDG) could perhaps alleviate the birth crisis of many Western countries or even satisfy the aspirations of those who want to have genetically-related children but cannot or do not want to go through pregnancy. This approach has generated a great deal of controversy not only in the academic world but also in public opinion. Certainly, the proposal is very striking and provocative. However, it is worth asking whether from a bioethical perspective, the proposal makes sense and which points of it can be discussed as controversial or inaccurate.

To carry out this task, we will try to analyze Smajdor's article from different perspectives. We will explore the medical viability and ethical justification of using deceased persons as "gestational cadavers," or in the author's terminology "fetal containers." Is it correct to use cadavers for gestation? Are these people dead?

One of the most problematic issues associated with brain death is the assumption that brain death is a valid criterion for determining human death. While true that the author mentions in the article that this criterion is in question, she accepts it as a valid premise since it is a widely extended practice and fundamentally accepted by the medical and scientific community. Smajdor writes:

> “Secondly, although there are those who dispute their validity, the use of brain stem death criteria for determining when a patient’s life is effectively at an end is widespread in the context of organ donation. In contrast, it is not so clear that PVS patients’ living interests are at an end; they may recover fully or partially. Patients who are brain stem dead cannot

> recover. Irreversibility is written into the definition of brain death. Accordingly, a patient who recovers was never really brain-dead in the first place. It is this that makes brain stem death the preferred route to organ donation." [1, p. 115].

Two points should now be made: on the one hand, it is necessary to further develop the controversial context surrounding the brain death criterion for determining human death. On the other hand, it is necessary to comment on whether, beyond the controversies, there are medical reasons to advise against the effective implementation of the practice of WBGD.

Controversies regarding the determination of brain death can be broadly grouped into two main groups: scientific discrepancies and moral discrepancies. Regarding the scientific discrepancies, the incongruities that the criterion of brain death offers in terms of, for example, the concept of irreversible cessation of vital functions, the concept of the function itself, the idea that total destruction of the brain and brainstem is equivalent to death, or the manifest uncertainty of diagnostic tests [3–7], have usually been criticized. Several authors have suggested rethinking the criteria for brain death from different angles, making it less inclusive [8] (i.e., returning to the single definition of circulatory death) or, on the contrary, more inclusive [9] (further lengthening the parameters for considering someone as dead, e.g., cortical death).

The moral discrepancies are fundamentally justified by the idea that whether or not there is consensus on the scientific evidence, there are also moral reasons – religious, cultural or social – that should be sufficient to consider a person as alive despite being in a state of brain death. Examples of such discrepancies include the refusal of Orthodox Jews to accept the criterion of brain death for biblical reasons [10] or the refusal of some fundamentalist Christians for the same reason. Furthermore, in Japan and in some states of the United States, an objection to the determination of death based on religious reasons is allowed. Accordingly, a person can decide whether to be legally considered as dead or alive when clinically declared brain dead [11–13].

The second point to be made in relation to the problems associated with the concept of brain death arises from the author's claim that there are no medical problems associated with the idea of artificially maintaining a deceased person in order to become pregnant. One criticism of this idea is based on the principle of justice in the distribution of scarce health resources. Although it is technically possible to maintain the "vital" functions of a deceased person by the brain death criterion for a long period of time, it is not clear that this practice has an obvious social interest. The cost of maintaining someone with artificial respiration and circulation is extremely high, as is the cost of occupying a hospital bed – usually an ICU bed – for proper care. In the case of maintenance for organ donation, the period of time that the body is "maintained" is very short, from hours to days, and the benefit is very high – usually saving or improving several lives. In the case of WBGD, it is not clear that the cost-benefit balance is positively tilted in its favour.

Discussing brain death and organ donation can be uncomfortable for many people, as the thought of what happens after one's passing is often unpleasant. However, to discern between ethical and unethical practices, it is necessary to delve beyond surface-level discomfort and repulsion. Smajdor's work is based on the principle that no one should shy away from challenging or unsettling questions. Therefore, discomfort alone cannot be used as evidence of ethical wrongdoing, as this would halt many medical advancements. Failing to address unethical actions does not deter them; instead, it enables them to happen without detection. As a result, it is crucial to keep the public well-informed and empowered to make their own choices about organ donation.

Time after the publication of this article on WBGD, it was picked up by various media outlets, some with political motivations or commercial interests in generating sensationalism. Most of the reports were probably intentionally misrepresenting the thought experiment as a policy proposal or an ongoing research project that ignored key issues such as consent. Accordingly, without taking the time to read or comprehend the

publication, some social media platforms were inundated with abusive comments directed towards this particular work and its author. However, the philosophical discussion should be open, free from red lines that bias one's thinking. This is precisely the basis of philosophy.

It is important to keep in mind that death is not a scientific certainty. Although death is an observable biological event, its definition is largely a social and cultural construction. For example, the definition of brain death is based on clinical and technological criteria that have been accepted by the medical and part of the bioethics community. But what if there were a different way to define death? What if the current definition is not sufficient to address all aspects of death? Exploring these questions can lead to a deeper understanding of death and its significance in our lives. This is exactly the focus of the article published in Theoretical Medicine and Bioethics by Anna Smajdor. We think she employed a proper thought experiment to challenge these uncomfortable questions, which is one of the more fundamental tasks of bioethics. However, some issues were left unaddressed. This letter aims to complement those issues and offer a different perspective on the problem. In principle, we are not opposed to Smajdor's thought experiment from an ethical perspective, but we do believe that it raises objections regarding the determination of brain death and the distribution of scarce resources.

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Otros resultados

El desarrollo de esta investigación ha generado otros resultados en investigaciones tangenciales, colaboraciones científicas, actividades docentes y de divulgación.

Perfil del investigador

A lo largo de esta tesis he desarrollado interés por la ética, la bioética y la filosofía experimental. He podido publicar artículos sobre distintos temas como el pluralismo en la determinación de la muerte, la eutanasia, la inteligencia artificial, la ética de las vacunas y el envejecimiento.

Mi índice de citas en Google Scholar es el siguiente:

Citas: 42

Indice h: 4

Indice i10: 1

Artículos publicados que no se incluyen en el compendio

1. García-Barranquero, P., Llorca Albareda, J., & Díaz-Cobacho, G. (2023, June 7). Is ageing undesirable? An ethical analysis. Journal of Medical Ethics. Advance online publication. https://doi.org/10.1136/jme-2022-108823

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La revista Journal of Medical Ethics (ISSN: 1473-4257) es publicada por la editorial BMJ (Reino Unido)

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- MEDLINE (Index Medica)
- PubMed Central (BMJ Open Access Special Collection)
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- Embase (Excerpta Medica)
- CINAHL
- Google Scholar

2. García-Barranquero, P., Llorca Albareda, J., & Díaz-Cobacho, G. (2023, October 16). Is ageing still undesirable? A reply to Räsänen. Journal of Medical Ethics. Advance online publication. https://doi.org/10.1136/jme-2023-109607

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- CINAHL
- Google Scholar

3. Hortal-Carmona, J., & Díaz-Cobacho, G. (2021). DoC and COVID Vaccinations: A Complex Decision. AJOB Neuroscience, 12(2-3), 154-156. https://doi.org/10.1080/21507740.2021.1904039

Citas recibidas:

Según Google Scholar: 0

Según la revista: 0

La revista The American Journal of Bioethics (ISSN: 1536-0075) es publicada por la editorial Taylor & Francis Online (Reino Unido)

H Index: 69

Factor de Impacto (SCImago): Q1 (1.22)

Posición en su categoría

SCImago: 34

Está indexada en las siguientes bases de datos (según la propia revista):

- Bibliography of Bioethics
- Biological Abstracts
- CINAHL Cumulative Index to Nursing & Allied Health Literature
- Elsevier EMBIOLOGY
- Elsevier EMCARE
- Elsevier's Scopus
- ISI Current Contents: Social & Behavioral Sciences
- ISI Science Citation Index Expanded
- ISI Social Science Citation Index
- LEXIS/NEXIS
- MEDLINE/ Index Medicus
- OCLC ArticleFirst
- OCLC Electronic Collections Online
- PAIS International
- The Philosopher's Index

4. Martínez-López, M. V., Díaz-Cobacho, G., Astobiza, A. M., & Rodríguez López, B. (2023). Exploring the Ethics of Interaction with Care Robots. In F. Lara & J. Deckers (Eds.), Ethics of Artificial Intelligence (pp. 113-126). The International Library of Ethics, Law and Technology, Vol. 41. Springer, Cham. https://doi.org/10.1007/978-3-031-48135-2_8

Citas recibidas:

Según Google Scholar: 0

Según la editorial: 0

La editorial Springer (ISSN: 1473-4257) tiene su sede central en Luxemburgo

SPI Editoriales extranjeras 2022: 4

ICEE General: 950

5. Hortal-Carmona, J., & Díaz-Cobacho, G. (2022). Global Distribution of COVID-19 Vaccine: Mine First. Philosophies, 7(5), 106. https://doi.org/10.3390/philosophies7050106

Citas recibidas:

Según Google Scholar: 1

Según la revista: 1

La revista Philosophies (ISSN: 2409-9287) es publicada por la editorial MDPI (Suiza)

H Index: 9

Factor de Impacto (Scimago): Q2 (0.24)

Posición en su categoría

Scimago: 83

Está indexada en las siguientes bases de datos (según la propia revista):

- BibCnrs
- CNKI
- CNPIEC
- Digital Science
- DOAJ
- EBSCO
- Elsevier Databases
- Scopus
- Gale
- OpenAIRE
- PhilPapers
- ProQuest
- Web of Science
    - ESCI

6. Martínez-López, M. V., Díaz-Cobacho, G., Liedo, B., Rueda, J., & Molina-Pérez, A. (2022). Beyond the Altruistic Donor: Embedding Solidarity in Organ Procurement Policies. Philosophies, 7(5), 107. https://doi.org/10.3390/philosophies7050107

Citas recibidas:

Según Google Scholar: 3

Según la revista: 3

La revista Philosophies (ISSN: 2409-9287) es publicada por la editorial MDPI (Suiza)

H Index: 9

Factor de Impacto (Scimago): Q2 (0.24)

Posición en su categoría

Scimago: 83

Está indexada en las siguientes bases de datos (según la propia revista):

- BibCnrs
- CNKI
- CNPIEC
- Digital Science
- DOAJ
- EBSCO
- Elsevier Databases
- Scopus
- Gale
- OpenAIRE
- PhilPapers
- ProQuest
- Web of Science
    - ESCI

7. Llorca-Albareda, J., & Díaz-Cobacho, G. (2023). Contesting the Consciousness Criterion: A More Radical Approach to the Moral Status of Non-Humans. AJOB Neuroscience, 14(2), 158-160. https://doi.org/10.1080/21507740.2023.2188280

Citas recibidas:

Según Google Scholar: 4

Según la revista: 0

La revista AJoB Neuroscience (ISSN: 2150-7759) es publicada por la editorial Taylor & Francis Online (Reino Unido)

H Index: 29

Factor de Impacto (Scimago): Q3 (0.61)

Posición en su categoría

Scimago: 85

Está indexada en las siguientes bases de datos (según la propia revista):

- Bibliography of Bioethics
- Biological Abstracts
- CINAHL Cumulative Index to Nursing & Allied Health Literature
- Elsevier EMBIOLOGY
- Elsevier EMCARE
- Elsevier's Scopus
- ISI Current Contents: Social & Behavioral Sciences
- ISI Science Citation Index Expanded
- ISI Social Science Citation Index
- LEXIS/NEXIS
- MEDLINE/ Index Medicus
- OCLC ArticleFirst
- OCLC Electronic Collections Online
- PAIS International
- The Philosopher's Index

Proyectos de investigación

En esta etapa de formación académica he podido participar en los siguientes proyectos

Como investigador principal

- Pluralismo y muerte: Desafíos éticos y actitudes de los profesionales en relación con la diversidad de criterios en la determinación de la muerte, 2019 – 2020, financiado por la Fundación Grifols i Lucas.

Como miembro

- Red Temática RED2022-134551-T "ESPACYOS. ETICA DE LA SALUD PUBLICA", 1/06/2023 – 31/05/2025, REF: RED2022-134551-T, financiado por la Agencia Estatal de Investigación.
- Bioética y prácticas relacionadas con el final de la vida (INEDyTO II), 2021 – 2024, REF: PID2020-118729RB-I00, financiado por el Ministerio de Ciencia e Innovación.

- Mejora moral e inteligencia artificial. Aspectos éticos de un asistente virtual socrático (SocrAI3), 2023, REF: B-HUM-64-UGR20, financiado por la Consejería Economía, Conocimiento, Empresas y Universidades. Junta de Andalucía.
- TTV Guide TX -personalisation of immunosuppression by monitoring viral load post kidney transplantation -a randomised controlled phase II trial, 2022-2023, REF: 896932, financiado por la Comisión Europea.
- Investigación en ética de la donación y el trasplante de órganos (INEDyTO I), 2018 – 2021, REF: FFI2017-88913-P, financiado por el ministerio de Economía, Industria y Competitividad.
- Laboratorio Iberoamericano de ética y salud pública" (LIBERESP), 2023 – 2026, REF: P622RT0063, financiado por CYTED (Programa Iberoamericano de Ciencia y Tecnología para el Desarrollo).
- Inteligencia artificial y autonomía humana. hacia una ética para la protección y mejora de la autonomía en sistemas recomendadores, robótica social y realidad virtual, 2023 – 2026, REF: PID2022-137953OB-I00, financiado por el Ministerio de Ciencia e Innovación.
- Epistemological and bioethical analysis of the criteria for determining death (ABCDm), 2021 – 2023, REF: PID2020-119717GA-100, financiado por el Ministerio de Ciencia e Innovación.

Participación en congresos y otras actividades científicas (selección)

- Joan Llorca Albareda; Gonzalo Díaz Cobacho. "Ética, Trabajo e Inteligencia Artificial. XXI Congreso Internacional de Ética y Filosofía política "Ética, Democracia e Inteligencia artificial". Universidad de Castellón. 2023. España.

- Gonzalo Díaz Cobacho. The death determination problem, an approximation. I Seminario Ibero-Brasileño Sobre Ética, Inteligencia Artificial Y Tecnologías Emergentes. Universidade Federal do Rio de Janeiro. 2023. Brasil
- Gonzalo Díaz Cobacho. Pluralismo en la determinación de la muerte, una posibilidad poco estudiada. VI Congresso Iberoamericano De filosofía. Universidad de do Porto. 2023. Portugal.
- Pablo García Barranquero; Joan Llorca Albareda; Gonzalo Díaz Cobacho. No, we do not want to get old. International Workshop “Logic, Philosophy and History of Medicine”. Universidad de Sevilla. 2022. España.
- Pablo García Barranquero; Joan Llorca Albareda; Gonzalo Díaz Cobacho. Is aging good for us? Bioethics International Workshop. Universidad de Granada. 2022. España.
- Pablo García Barranquero; Joan Llorca Albareda; Gonzalo Díaz Cobacho. ¿Es bueno envejecer? VII Seminario de la Red Andaluza de Ética y Filosofía Política. Universidad de Córdoba. 2023. España.
- Mar Vallés Poch; Gonzalo Díaz Cobacho; María Victoria Martínez López. Presentación del diccionario crítico sobre el final de la vida. Bioethics International Workshop. Universidad de Granada. 2022. España.
- Gonzalo Díaz Cobacho. Hablemos de pluralismo en la determinación de la muerte. VI JORNADAS FILO DOC. Universidad de Granada. 2021. España.
- Gonzalo Díaz Cobacho; Rosana Triviño Caballero. Objetar la muerte. III Taller INEDyTO sobre Ética Aplicada, Trasplante de órganos y Final de la vida. Universidad de Granada. 2021. España.
- Gonzalo Díaz Cobacho. Pluralismo en la muerte encefálica, una aproximación. SEMINARIODE ÉTICAS APLICADAS 2021. Universidad Complutense de Madrid. 2021. España.

- Pluralismo en la muerte cerebral. XV TALLER DE ÉTICAS APLICADAS DILEMATA. Instituto de Filosofía. 2019. España.
- Algo pasa con Jahi. Un cuestionamiento de la muerte cerebral. II Taller INEDyTO sobre Ética y Percepción Pública de la Donación y el Trasplante de Órganos. Instituto de Filosofía. 2019. España.