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Dependency and Vulnerability Argument in Care Ethics and the Moral Justification of Human Genome Editing

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Abstract

Care ethics is a normative ethics that holds, among other things, that moral notions centres on human interpersonal relationships and care as a virtue. It concerns itself mainly with caring relationships. The problem of Human Genome Editing (HGE) raises different moral issues and different attempts has been made from the consequentialist (utilitarian) and non-consequentialist (deontological) perspectives for their justification but not satisfactorily. This paper aims to argue that care ethics provides a better alternative moral justification for HGE. In doing this, the paper will use dependency and vulnerability argument in care ethics. If this is successfully argued, it will show that care ethics provides a better alternative means of moral justification of HGE in Bioethics.

Keywords: human genome editing, care ethics, moral justification.

1. Introduction: The moral problems of human genome editing (HGE)

The moral problems of human genome editing emanate from the use of genome editing machines by humans for therapeutic or non-therapeutic purposes. In ethics, basically, the moral justification of genome editing has raised pertinent moral issues, problems and questions which has elicited critical discussions and comments from philosophers, bioethicists, biomedical scientists, religious scholars, and policy makers. Moral questions raised by human genome editing have caused conflicts between the interests of the government and the citizens.

The debate about the moral problems of HGE can be traced down to the cloning break identified with Dolly the sheep and breakthroughs made since the development of Induced Pluripotent Stem (IPS) cells derived from somatic (non-heritable) cells.¹ One of the moral problems of human genome editing is informed consent. When an embryo is genetically edited, the edition brings about changes that affect every cell in the baby's body. The effect of the edition goes a long way as it is passed down to the edited baby's posterity and it continues like that causing disable cum physical and mental pain to the person involved and their posterity.² In most cases, the consequence of germline editing is seriously negative and destructive.

¹ Kato, Kazuto. "Kazuto Kato: the ethics of editing humanity." *Bull World Health Organ* 99 (2021): 616-617.

² Lea R. A, Niakan K. K. "Human Germline Genome Editing." *Nat Cell Biology* 21(12): 1479–1489 2019. <https://doi.org/10.1038/s41556-019-0424-0>

According to Smolenski, heritable genome interventions present an ethical constraint on the impossibility of future generations of providing consent to an intervention on their genome.³ This is because the patients concerned are the embryo and its posterity.⁴ The pertinent question at this point is: is it morally permissible to use gene therapy on an embryo when it is impossible to get permission from the embryo for treatment? Is getting permission from the parents enough or sufficient moral justification for genome editing? Moreover, edits in the germline would be passed down through generations whereas it is impossible to get consent from future generations.⁵ This problem is otherwise known as the problem of the unborn and future generations.

The assurance of safety is another moral problem of human genome editing. This is because it is possible that cells be edited in the wrong place (this situation is known as off-target edit) and that some cells carry the edit while others do not (this situation is known as mosaicism).⁶ Another reason why safety is considered as an important moral problem of the use of human genome editing technologies is that it has a high risk of affecting human dignity. According to Mara Almeida and Robert Ranisch, human dignity is one of the key values emphasised in all the official and unofficial documents addressing human rights in the biomedical field.⁷

There are arguments presented by scholars that heritable genome interventions might affect the value of human dignity.⁸ It is with this mindset that the Council of Europe in 1982 declares that “the rights to life and to human dignity protected by Articles 2 and 3 of the European Convention on Human Rights imply the right to inherit a genetic pattern which has not been artificially changed.”⁹ This declaration is also supported by the Oviedo Convention on Human Rights and Biomedicine where Article 13 prohibits any genetic intervention with the aim of introducing a modification in the genome of any descendants. The Convention is the only international legally binding instrument that covers human germline modifications among the countries.¹⁰

In addition, conflict with human right is a problem of human genome editing. According to The Universal Declaration on the Human Genome and Human Rights (UDHGHR), “the human genome underlies the fundamental unity of all members of the human family, as well

³ Smolenski J. “Crispr/cas9 and Germline Modification: New Difficulties in Obtaining Informed Consent.” *Am J Bioeth* 15(12): 35–37. 2015.

⁴ Wolf D. P., Mitalipov P. A., Mitalipov S. M. “Principles of and Strategies for Germline Gene Therapy.” *Nat Med* 25(6):890–897. 2019.

⁵ Vassena R, Heindryckx B, Peco R, Pennings G, Raya A, Sermon K, Veiga A. “Genome Engineering Through CRISPR/Cas9 Technology in the Human Germline and Pluripotent Stem Cells.” *Hum Reprod Update* 22(4): 411–419. 2016. <https://doi.org/10.1093/humupd/dmw005>

⁶ Baylis, F. *Altered Inheritance: CRISPR and the Ethics of Human Genome Editing*. Cambridge, Mass: Harvard University Press. 2019.

⁷ Mara Almeida, Robert Ranisch. “Beyond safety: Mapping the Ethical Debate on Heritable Genome Editing Interventions.” *Humanities and Social Sciences Communications*. 2022, 9: 139. <https://doi.org/10.1057/s41599-022-01147-y>

⁸ Calo, Z. “Human Dignity and Health Law: Personhood in Recent Bioethical Debates.” *Notre Dame J Law Ethics Public Policy* 26: 473–499. 2012.

⁹ Council of Europe. “Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine.” *Convention on Human Rights and Biomedicine*. COE, Oviedo. 1997.

¹⁰ Mara Almeida, Robert Ranisch. “Beyond Safety: Mapping the Ethical Debate on Heritable Genome Editing Interventions.” *Humanities and Social Sciences Communications*, 9: 139, 2022. <https://doi.org/10.1057/s41599-022-01147-y>

as the recognition of their inherent dignity and diversity. In a symbolic sense, it is the heritage of humanity.”¹¹ The human genome is viewed as our uniquely human collective ‘heritage’ that needs to be preserved and protected. It is the case that editing human gene is liable to affect and interrupt this natural heritage and therefore would threaten human rights.¹²

Furthermore, the problem of identity is one of the perennial issues in the practice of human genome editing. Heritable human genome editing creates changes that can be transferred down to future generations. This can represent a threat to the unity and identity of the human species, as these modifications could have an impact on the human’s gene pool. Any alterations would then affect the evolutionary trajectory of the human species and, thus, its unity and identity. Also, there is the problem of how to identify someone whose gene has been edited either as a natural person or as an artificial being.¹³ In *An analysis of different concepts of “identity” in the heritable genome editing debate*, Ying-Qi Liaw argues for a new multi-faceted concept of identity as a suitable framework for discussing the moral and social implications of human genome editing. His major premise for his argument is that it shows the interconnection of the different forms of identity which is very essential in the understanding of human genome editing.¹⁴

Conflict with justice and equality is another vital problem ensuing from the use of genome enhancement technologies. According to Baumann, a major concern or ethical challenge posed by the use of genome editing technologies is how it would be easily affordable and accessible to the general populous irrespective of any social, economic, religious or political differences.¹⁵ There is a very high probability that human genome editing technologies would be more costly in the future. The global gene editing market is estimated to worth \$10.6 billion by 2028.¹⁶ The variables on which the research was based consists of the industry trends, pricing analysis, patent analysis, conference and webinar materials, key stakeholders, and market demand. Due to this, there is the risk that genome editing technologies will become very expensive technologies that only a few wealthy individuals in any population can access. In addition, there is the consideration that patenting of genome editing technologies will delay widespread access or lead to unequal distribution of corresponding health benefits.¹⁷

Therefore, this can lead to further increase in existing health inequality amongst inhabitants of a particular country and among nations. This is because, individuals and countries

¹¹ UNESCO. “Universal Declaration on the Human Genome and Human Rights.” *UNESCO*. Paris. 1997.

¹² Annas G. J. *Bioethics: Crossing Human Rights and Health Law Boundaries*. New York: Oxford University Press. 2005.

¹³ Melillo T. R. “Gene Editing and the Rise of Designer Babies”. *V and J Trans Law*, 50:757–790, 2017.

¹⁴ Liaw Y. Q. “An Analysis of Different Concepts of “Identity” in the Heritable Genome Editing Debate.” *Med Health Care Philos.* 27(1): 121-131, 2024. doi: 10.1007/s11019-023-10189-1. Epub 2024 Jan 8. PMID: 38189908; PMCID: PMC10904499.

¹⁵ Baumann, M. “CRISPR/Cas9 Genome Editing: New and Old Ethical Issues Arising from a Revolutionary Technology.” *Nanoethics*. 2016. 10:139–59, 2016.

¹⁶ “Markets and Markets. Gene Editing Market by Products and Services (Reagents, Consumables, Systems, Softwares), Technology (CRISPR, TALEN, ZFN, Antisense), Application (cell line engineering genetic engineering, drug discovery), and end user (pharma, biotech)” - *global forecast 2028*. 2023. https://www.marketsandmarkets.com/Market-Reports/genome-editing-engineering-market-231037000.html?gad_source=1&gclid=CjwKCAiAkp6tBhB5EiwANTCcx1BH4ouM62kJbKoLJirVrpYr2ibUrW63Ln_jxW3wdUkDJzh2oToJLURoCuGwQAvD_BwE#

¹⁷ Feeney O, Cockbain J, Morrison M, Diependaele L, Van Assche K, Sterckx S. “Patenting Foundational Technologies: Lessons from CRISPR and other Core Biotechnologies.” *Am J Bioeth* 18(12), 36–48, 2018.

with the best economic advantage will be able to easily afford these technologies and use it.¹⁸ This could enhance inequality at different levels, depending on the limits of applicability of the technology. Taken to its extreme, the use of the technology could allow germline editing to create and distinguish classes of individuals that could be defined by the quality of their artificial or edited genome.

2. Consequentialist arguments about HE

Ethical consequentialism is the moral theory that appraises the rightness or wrongness of actions based on their effects or consequences.¹⁹ Consequentialist theories, especially the theory of right action, deal with the concept that the moral goodness of any act is determined by the goodness or badness of its consequences.²⁰ In other words, an act is right if it causes good consequences or increases the amount of good in total and it is wrong if it causes bad consequences or does not maximize the amount of good. The best-known version of consequentialism is utilitarianism, popularised by people like Jeremy Bentham and John Stuart Mill. Utilitarianism is the theory asserting that right action produces the greatest happiness or pleasure among the majority of mankind.²¹ It is generally expressed as the greatest good for the greatest number.²²

Consequentialist theories are often set against deontological ethics, which hold intrinsic moral value in certain actions or principles, regardless of their outcomes. For example, while a consequentialist would argue that lying is wrong because it leads to negative consequences, a deontologist would contend that lying is inherently wrong, no matter the consequences, because it violates a moral principle like honesty. Critics of consequentialism worry that the theory allows for justifying actions that may infringe on individual rights or produce unjust outcomes in the pursuit of overall good. Despite these criticisms, consequentialism remains a significant and influential approach to moral reasoning, and it has been the subject of extensive philosophical debate and discussion about the moral justification of human genome editing. The following are examples of consequentialist arguments about the moral justification of HGE:

2.1 Parental responsibility arguments in support of HGE

John Harris is a famous bioethicist who has been one of the most outspoken advocates in using gene technologies, human editing machines included, for betterment of human welfare and reduction of suffering. Harris supports the argument that human genome editing could bring about an immense improvement in humans' health and well-being by eliminating periodic outbreaks of genetic diseases and enhancing the desirable traits. He goes further to argue that applying the available technology in preventing genetic disorders and improving life quality for people of the next generation is a moral duty.²³ Harris claims that genetic intervention should be

¹⁸ Bosley KS, Botchan M, Bredenoord AL, Carroll D, Charo RA, Charpentier E et al. "CRISPR Germline Engineering: the Community Speaks." *Nat Biotechnol* 33(5): 478–486, 2015. <https://doi.org/10.1038/nbt.3227>

¹⁹ McNaughton, David, and Piers, Rawling, "Deontology". In David Copp (ed.), *The Oxford Handbook of Ethical Theory*. Oxford University Press. 2006, 428-431.

²⁰ Railton, Peter. "Consequentialism." In *The Blackwell Guide to Ethical Theory*, edited by Hugh LaFollette, Blackwell Publishing, 2000, 168-185.

²¹ Mill, John Stuart. "Utilitarianism." In *Seven Masterpieces of Philosophy*.. Routledge, 2016. 329-375

²² *Ibid.*, 329.

²³ Harris, John. "Genetic Enhancement: Plan Now to Act Later." *Bioethics*, Vol. 19, No. 3, (2005): 198-205.

proactive on the ground of the moral obligation to reduce human suffering and foster human flourishing through the offer of scientific advances.

Also, Harris argues for the ethical permissibility of using genetic technologies to enhance the lives and future prospects of people yet to be born.²⁴ He further holds that there is a moral obligation to apply the available genetic means to prevent suffering and to improve the quality of life of persons from their very inception. On his part, he emphasised that every child should have the best possible start in life, free from preventable genetic diseases and able to flourish.

He also goes on to argue that genetic enhancements can greatly contribute to autonomy, well-being, and progress in society. It challenges some of the more traditional ethical theories and requires a fundamental change in values regarding the emerging genetic technology, in that his appeal is for a much more proactive role to be adopted for genetic interventions and he places an ethical duty on focusing welfare considerations upon future generations.

Second, Harris advocates protectionism on matters concerning genetic enhancement by showing that the consequences of allowing people to resort to genetic alterations according to their value judgments and preferences might be beneficial. The beneficent consequences are autonomy, living healthier and more fulfilling life, and fostering a society that values human welfare and progress. Harris's stance for editing the human genome raises several key ethical considerations: autonomy, beneficence, and justice. Harris's emphasis on the potential benefits of genetic technologies underlines a moral imperative to alleviate suffering and foster well-being through scientific innovation. On the contrary, one may argue that the utilitarian drive in bioethics of Harris may overlook critical concerns of justice, equity, and unwanted consequences of genetic interventions.

Furthermore, Harris argues that respect had to be paid to principles of autonomy and decision-making that included genetic interventions. Basically, his argument is premised on the fact that as rational agents, individuals ought to have the right to make moral decisions with regard to genetic enhancement both for themselves and their offspring, with the proviso that such moral choices square with ethical principle and are not harmful to others.²⁵

One of the ethical concerns arising from Harris's arguments is that the use of genetic enhancements exaggerates already existing social inequalities. Again, it would be proper to mention that if human genome editing becomes widely used in the future, it could increase the gap between those who can afford to get genetic treatments and those who cannot, therefore creating a stratified society of genetic advantages. There is also the rather ambiguous aspect how gene editing will affect individual identity, human diversity, and shifts in societal norms through genetic alteration for a very long time.

2.2 Arguments on natural order against HGE

Leon R. Kass, one of the iconic American bioethicist, has made a very strong case against the morality of human genome editing. In *The Wisdom of Repugnance: Why We Should Ban the Cloning of Humans*, Kass constructs a thought-provoking critique pertaining to the ethical dimensions associated with altering the human genome.²⁶ Kass's argument is based on the

²⁴ Harris, John. "The Moral Imperative to Create Children with the Best Chance of the Best Start in Life." *Journal of Medical Ethics*, Vol. 32, No. 6 (2006): 353-357.

²⁵ Harris, John. *Genetic Enhancement: Plan Now to Act Later*. Bioethics, vol. 19, No. 3 (2005); 198-205.

²⁶ Leon, R. Kass. "The Wisdom of Repugnance: Why We Should Ban the Cloning of Humans." 32 Val. U. L. Rev. 679-705, 1998. <http://scholar.valpo.edu/vurl/vol32/iss2/12>

consequences that could arise from altering the human genetic code and emphasizes that it will disturb the natural order and human dignity. What he means is that human genome editing is basically, fundamentally contrary to the intrinsic value of human life and the natural order of the world. However, he argued that adopting genetic manipulation technologies will only degrade human dignity and lose reverence for the mystery life itself deserves

Kass' view is strongly wedded to some old-fashioned view of human nature and the inviolability of the natural order. He argued that genetic tampering with the human code, ipso facto, goes against the wisdom within the basic repugnance that humans feel viscerally about such meddling. Kass argues that this repugnance is not simply a manifestation of irrational fear, but that, in fact, it is a deep-seated intuition that recognizes the perilous implications of disregarding the natural boundaries of human existence.

Furthermore, Kass is concerned that such massive genome editing will be related to practices of eugenics and turning human life into merchandise. He is afraid that this search for perfection in genes will eventually turn into discrimination, inequality, and devaluation of human diversity. For Kass, it is in the very imperfection of humanity that humanity itself resides; engineering a perfect human race would rid human existence of richness and multifariousness. This argument by Kass reflects his holding fast to the moral imperative of embracing the limiting and imperfecting conditions as definitional to human experience.

Further, Kass excavates deep questions about intergenerational effects of editing the human genome. He brings up the moral dilemmas regarding changing the germline, which would have permanent effects on subsequent generations. According to Kass, these interventions are going to violate the autonomy and identity of people who have no say over the genetic alterations undertaken on their behalf. It means imposing genetic determinism upon them, contrary to the very basic principles of human freedom and self-determination.

His argument is a deep reflection on the moral and ethical consequences that human genome editing would have on society, springing from deep concern for the preservation of human dignity, the sanctity of life, and the integrity of the natural order. However, it should be noted that this view by Kass has been open to criticisms, especially with respect to its potential thwarting of scientific progress and reliance on values of traditionalism, which may not be shared by every member of society.

Furthermore, the argument against morality in human genome editing by Kass offers quite a number of compelling criticisms on the subject of ethical implications by genetic manipulation. Kass criticises the dominant discourse for the possible benefits of genome editing and cited the significance of protecting the sanctity of human life and the natural order. On the one hand, his view has opened extremely relevant discourses with respect to the moral dimensions of biotechnological development. On the other hand, it also calls for critical review so that a balanced consideration of the complex ethical issues at stake may be reached.

2.3 Religious arguments against HGE

The Ramsey Colloquium itself was composed of several distinguished theologians and ethicists who made valuable contributions toward a moral argument about human genome editing. It's called a colloquium in honor of Paul Ramsey, a theologian and ethicist who believed one must address moral dilemmas from a perspective that blended religious insight with secular ethics. One of the basic arguments in the position the Ramsey Colloquium regarding the moral justification of human genome editing is that of human dignity. They argue that human beings

were made in the image of God, which gives them intrinsic value to be respected in any ethics consideration.²⁷

The Colloquium is of the view that, in regard to non-therapeutic enhancements, genome editing could violate the inherent dignity of a person by reducing human life solely to a series of biological characteristics that any person can modify at whim. On the other hand, they would adopt the use of genome editing technologies for therapeutic purposes since it is in line with human dignity and thus tends to relieve pain and offer people the possibility of living and realizing a good life.

The Colloquium examines the idea that human behavior must be guided by a natural moral order. They argue that human genome editing is a potential step toward rejecting the constraints and weaknesses that are inherent to the human experience and moving away from acknowledging the givenness of the human situation.²⁸ The group believes in respecting the order of nature and teaches man not to be over-confident about taking complete control over our biological destiny

Perhaps most compellingly moral of all the arguments advanced by the Ramsey Colloquium is “playing God,” a phrase that captures unease at overstepping boundaries traditionally ascribed to divine providence. In this regard, the Ramsey Colloquium recommends a humble approach toward technological innovation, in particular, where changes to the irreversible human genome were concerned. It will present a case for the precautionary principle, which involves restraint in the face of uncertain risks and the potential for unintended consequences.²⁹

The Colloquium also considers the relationship of genome augmentation technology with social justice and fairness. It argues that human genetic enhancement has the potential to further worsen societal inequality between those who have access to “improved” genetic features and those who have not, even while applications that are obviously medicinal are more often recognized as having the ability to lessen suffering. It provides fairness to social justice and equity in access to all people in relation to genome editing technology, so that such progress is not made at the cost of a few favored members of society alone.³⁰

3. Deontological Arguments about HGE

The word *deontological* comes from the Greek word *Deon*, meaning duty or obligation.³¹ This lies at the center of deontological ethics: it claims that actions are right or wrong in themselves, regardless of their results. Under this view, individuals are obliged to adhere to particular moral principles.³² Also referred to as duty-based ethics, this moral theory emphasizes adherence to moral rules or duties that are part of ethical decisions. Under deontological ethics,

²⁷ Gilbert, Meilaender. “Embryos the Smallest of Research Subjects”. In *Bioethics: A Primer for Christians*. Grand Rapids, MI: William B. Eerdmans Publishing Company. 1996, 110-119.

²⁸ Ramsey Colloquium. The Universal Declaration of Human Rights Fifty Years Later: A Statement of the Ramsey Colloquium. 1998, 18-22. <http://www.leaderu.com/ftissues/ft9804/articles/ramsey.html>.

²⁹ Ibid., 20.

³⁰ Ibid., 22.

³¹ Alexander, Larry and Michael Moore. “Deontological Ethics.” *The Stanford Encyclopedia of Philosophy* (Winter 2021 Edition). Edward N. Zalta (ed.) 2020. <http://plato.stanford.edu/archives/win2021/entries/ethics-deontological/>.

³² Alexander, Larry and Michael Moore. “Deontological Ethics.” *The Stanford Encyclopedia of Philosophy* (Winter 2021 Edition). Edward N. Zalta (ed.) 2020. <http://plato.stanford.edu/archives/win2021/entries/ethics-deontological/>.

the morality of an act is determined by its adherence to given moral rules or duties, not by its outcome. This contrasts with consequentialist ethical theories, which assess the morality of actions based on their consequences.

Immanuel Kant is one of the most important, famous, and influential exponents of deontological ethics. His ethical philosophy revolves around what he termed the categorical imperative—a principle basic to moral duty. In relation to this, Kant holds that individuals ought to act according to maxims which they could will to be universal laws; thus, he underlined both the universality and rationality of moral principles.³³ Kant also highlighted the inherent worth of human beings as rational agents, advocating for the moral respect and dignity of individuals capable of moral reasoning as a crucial aspect of ethical decision-making.

In practical terms, deontological ethics provides a structured framework for resolving ethical dilemmas, focusing on principles such as honesty, respect for others, and adherence to universal moral rules. This ethical approach is commonly applied in fields like bioethics, healthcare, professional ethics, business ethics, environmental ethics, and human rights advocacy.

3.1 *Argument on procreative beneficence in support of HGE*

Julian Savulescu's concept of procreative beneficence submits that parents have a moral obligation to bring into existence the child who will have the best life, whenever this is possible.³⁴ This is a conceptual justification of the selection for the best possible features by using genome editing and enhancement techniques for the promotion of well-being and flourishing. Savulescu's argument for procreative beneficence grounds itself essentially in the principle of beneficence, with its cardinal meaning directed toward promoting well-being and causing the least harm. He supported this claim with the premise that the use of technologies of genetic enhancement can prevent hereditary diseases and also improve human capabilities and well-being. Words: In other words, the selection of the best possible traits in offspring can promote the well-being and flourishing of future generations

Also, by preventing genetic diseases and enhancing desirable traits through genetic technologies, Savulescu argues that parents can contribute to a much healthier and more resilient population of the actual human society.³⁵ Moreover, Savulescu argues that it is the moral duty of future parents to act in a manner that ensures maximum benefits with minimum harm to their children.³⁶ He justified it by saying that making responsible and informed reproductive decisions is a way for the parents to fulfil their moral obligation to ensure the well-being of the offspring. He argues further that genome editing technologies could prevent suffering by preventing individuals from leading lives full of suffering, or significant hardship, from existing in the first place. More specifically, this means a parent will spare her children unnecessary suffering by passing up those genes that are harmful, either through mutations or predispositions.

Also, Savulescu argues for the need to have parental autonomy in reproductive decision-making. His premise is that parents should have free choices to make moral uses of the

³³ Kant, Immanuel. *Groundwork of the Metaphysics of Morals* H. J. Paton (trans.), New York: Harper and Row. 1964, 89-90.

³⁴ Savulescu, Julian. "Procreative Beneficence: Why We Should Select the Best Children." *Bioethics*, 15(5-6), (2001); 413-426.

³⁵Ibid., 420.

³⁶ Ingmar Persson and Julian Savulescu. "Unfit for the Future: Human Nature, Scientific Progress, and the Need for Moral Enhancement." In Julian Savulescu J, Ruud ter Meulen, and Guy Kahane (eds.), *Enhancing Human Capabilities*. Blackwell, 2011, 486-500.

HGE technology, guided by the best interests of their children and beneficence and well-being. Moreover, he is of the view that using human genome enhancement technologies can promote genetic diversity of human society. By selecting desirable traits in offspring, Savulescu believe parents can contribute to the promotion of genetic diversity and the evolution of the human species. Therefore, the responsible use of genetic technologies can lead to a more diverse and resilient human population.

By arguing for the possibility that genetic technologies could be used to benefit future generations regarding health and well-being, Savulescu brings out the bright side of responsible reproductive decisions. Some of the weaknesses in his position include genetic discrimination, as it devalues some traits, which are some of the unintended consequences that come with the position. Another example is the safety of the edited embryo.

It can also be the case that genetic editing of an embryo is done in the wrong place, which will result in some cells bearing the edit while others do not. Moreover, in a genetically edited embryo, the edition brings about changes that affect every cell in the baby's body. The impact of the edition goes a long way as it is passed on to the edited baby's posterity and it keeps like that, disabling cum giving physical and mental pain to the person involved and their posterity. This problem may also be referred to as the unborn person and future generations' problem.

Procreation provides individuals with the opportunity to create value in the world by creating new life. This argument is premised on the claim that life is of value, and through the raising of a child, it is possible for an individual to bring positive value into the world.³⁷ Another argument is that those who can offer children a proper environment—being, of course, nurturing and supportive—ought to. Here, the argument is based on the duty of parenting.³⁸

Also, procreation is necessary for the survival of humanity and perpetuation of its species. This perspective pays attention to the necessity of providing for a future generation to build society.³⁹ Lastly, a person can desire to have children and that fulfilling this desire could lead to personal fulfilment and happiness; therefore, individuals should be allowed to use the Human genome editing technologies to fulfil their desires of procreation.⁴⁰

3.2 Arguments on human dignity in support of HGE

Ronald Dworkin is a famous legal philosopher who has enormous contributions to ethics and morality. Relating this to human genome editing, his arguments brought seminal contributions to the debate by focusing on moral dimensions. Indeed, his philosophies really focus on the question of human dignity. Human dignity can simply be explained to refer to the natural capability of a human being to possess reason and use it fundamentally in making moral decisions. He says, therefore, that they have a right to make choices concerning their own lives, including such aspects as genetics. In his seminal work *Life's Dominion*, Dworkin tried to argue that dignity

³⁷ Kavka, Gregory. "The Paradox of Future Individuals." *Philosophy and Public Affairs*, Vol. 11, No.2, (1982); 93-112.

³⁸ Feinberg, J. In W. Aiken & H. LaFollette (Eds.), *Whose Child? Children's Rights, Parental Authority, and State Power*. Totowa, NJ: Rowman and Littlefield. 124-153, 1980.

³⁹ Glover, J. *Future People and Us*. In J. Glover (Ed.), *Utilitarianism and its Critics*. New York: Macmillan. 107-127, 1984.

⁴⁰ Overall, C. "Procreative Beneficence: Why We Should Select the Best Children." *Bioethics*, 26(1), 1-14, 2012.

is related to the human right of personal sovereignty and self-determination, which extends to decisions on genetic enhancement and modification.⁴¹

Also, Dworkin argues that at the core of the morality of human gene editing is the principle of respect for human autonomy. He said that if the pursuit of genetic enhancements corresponds to one's conception of a life lived well by the individual, permission should be granted for that individual to do so. In this light, Dworkin's argument on human dignity and genetic enhancement represents the ethical urgency necessary in considering such a balance of individual liberties with its corresponding implications for society. Dworkin extends his philosophy in planning for equality and justice in human genome application to the moral aspects. He believes that society should be what it ought to be, adhering to equality and fairness, so that no one is left at a disadvantage based on genetic predisposition. He goes to say genetic enhancements should not deepen or raise the social inequalities or bring about unjust disparities in access to the use of genetic technologies. He says whatever resources individuals privately own, there shall be equality in.⁴²

In view of Dworkin's insights into editing the human genome, his arguments develop relevant implications for public policy and ethical oversight. Dworkin explains that democratic societies need robust public deliberations for setting ethical standards with regard to the responsible use of genetic technologies. He supports open mechanisms of decision-making that would deal first with the collective well-being, avoiding possible misapplications of genetic engineering.⁴³

By putting increased emphasis on public deliberation and ethical oversight, Dworkin is providing the regulatory frameworks for dealing with the ethical, legal, and social consequences related to human genome editing. The argument is underlined by the importance of informed public discourse and the creation of ethical guidelines that set forth how genetic technologies should be used in such a way that at least will remain in the rubric of values and moral principles of society

3.3 *Argument on human dignity, autonomy and equality against HGE*

A prominent German philosopher, Jürgen Habermas, also grounding his ideas on human dignity, instrumentalisation of life, and consequences for generations to come, provided arguments about the ethical concerns of human genome editing. In reality, as much as possible, Habermas underscores the very central principles of ethical discourse relating to biotechnological interventions in the biological existence of man: human dignity. He fears that such changes in the human genome, for purposes of enhancement, would undermine the dignity intrinsic in a human person by making a living being become an object of manipulation or thingification.⁴⁴

Habermas links human dignity with the principle of autonomy and self-determination that would be at stake if a person were allowed genetic manipulation without their free will.⁴⁵ In

⁴¹ Ronald Dworkin. *Life's Dominion: An Argument about Abortion, Euthanasia, and Individual Freedom*. New York: Alfred a. Knoph. 1993, 15.

⁴² Ronald Dworkin. *Sovereign Virtue: The Theory and Practice of Equality*. Cambridge, Massachusetts: Harvard University Press. 2000, 65.

⁴³ Ibid., 15

⁴⁴ Jürgen, Habermas. *The Future of Human Nature*. Polity Press. 2003, 29-36.

⁴⁵ Ibid. 23-28.

this connection, central to Kant's ethical system too is the concept of dignity, which refers to the intrinsic value that human beings possess due to their capacity for rational moral deliberation.⁴⁶

Unlike material objects that can be assigned a price or instrumental value, dignity is a quality that cannot be quantified or compromised. Any appreciation of Kant's view of dignity needs to be framed within his broader ethical theory. For Kant, there exist two types of imperatives: hypothetical and categorical. Hypothetical imperatives are strictly conditional and entail the performance of certain actions if one or another aim is to be secured. By contrast, categorical imperatives are unconditional and require agents to perform certain acts quite regardless of any personal desires or goals whatever. It is under the rubric of the categorical imperative that Kant locates human dignity.⁴⁷

Kant distinguishes between things that have a price and things that have dignity. He states that everything has either a price or a dignity. Objects, animals, and even human inclinations or desires can have a price, meaning they are subject to comparison and exchange. However, persons, due to their autonomy, are not subject to such exchange. Their dignity makes them irreplaceable, incomparable, and beyond all calculation of price. Genetic enhancement tries to gain an advantage at the cost of human dignity because it can lead to a society in which the new human being is judged by his or her genetic makeup rather than on grounds of his worth as a person.

Another problem with regard to the critique of human genome editing by Habermas is instrumentalisation of human life. The instrumentalisation of human life can be explained as using human life as an object or means for achieving some end. He warns of how genetic interventions are making human life a mere object of manipulation or even a means to an end. He fears that such a view of humans, mainly through the prism of genetic makeup, risks the commodification of human existence: people being valued for genes, not humanness. In that respect, the commodification of human beings when it comes to human genome editing will involve participating in paid medical trials or editing one's gene for money's sake.

While explaining what human commodification does mean, Leandro Gaitan argues that the possibility of modifying personality by technical means could turn us into buyers and consumers of personality. As such, personality, which constitutes a core aspect of the self, could become a commodity.⁴⁸ The commodification of human life has already started posing a threat to the very moral fabric of society and according to Habermas may further enhance the existing inequalities and social injustices.

Moreover, in the view of Habermas, intergenerational effects from human genome editing are a matter of concern. He notices that decisions made today on enhancement genetic manipulation will have repercussions on very many future generations by setting a genetic heritage of humanity in ways that are not easy to forecast or control. Intergenerational justice is an important element of ethical decisions regarding editing of the human genome, according to Habermas. He argues that it is the interests and welfare of future generations, which must be borne in mind while making decisions on genetic interventions. He warns against any infliction of irreversible changes within the human genome, especially using enhancing genome technologies

⁴⁶ Kant, Immanuel. "Groundwork of the Metaphysics of Morals." *Cambridge Texts in the History of Philosophy*. (Transl. and Edited by Mary Gregor). Cambridge University Press. 1998, 42.

⁴⁷ Kant, Immanuel. "Groundwork of the Metaphysics of Morals." *Cambridge Texts in the History of Philosophy*. (Transl. and Edited by Mary Gregor). Cambridge University Press. 1998.

⁴⁸ Leandro, Gaitan. "The Commodification of Personality: Human Enhancement and Market Society." *Human Affairs*, Vol 31, No.1, (2021); 40-45.

for non-therapeutic purposes, with possible unforeseen future consequences on the fate of humankind.

The above study shows that consequentialist ethics and deontological ethics arguments as exemplified by the arguments of philosophers examined above do not adequately address the deeply relational and context-dependent nature of the ethical challenges that ensues from the use of genetic technologies for therapeutic and non-therapeutic purposes. In the following, this paper shall argue that care ethics through its argument on dependency and vulnerability within human relationships, provides a better, morally compelling justification for Human Genome Editing.

4. Argument on dependency and vulnerability

According to care ethics, human genetic interventions should be specially scrutinised to decide how they are affecting vulnerable populations, such as those with disabilities, socioeconomically less well-off groups of people, or even future generations, who cannot consent to the changes made. This is because care ethics tends to protect and care for the vulnerable populations rather than merely strive for the resorting to human genetic editing technological development for the sake of a good life. Basically, care ethics is a normative moral theory that focuses on the area of human life, which gives importance to relationships and dependencies.

Care ethics, rooted in feminist theory, challenges arguments on justifying human genome editing from deontological and consequentialist perspectives, citing that both schools of thought are only positioned on abstract principles and individual autonomy, arguing instead about the roles of empathy, compassion and relational dependence as crucial determinants of human choice of a good life and the use of human genome enhancement technology. It is in this very spirit that Nel Noddings argues that caring is the basis from which ethical decisions should be founded; giving primacy to response to the needs of others.⁴⁹

Moreover, care ethics is a moral theory that asserts the relationality and interdependence of human beings, while moral consequentialist and deontological arguments emphasises self-sufficiency and autonomy. From the cradle to the grave, human beings depends on one another for support physically, emotionally, and psychologically. This dependency does not describe any stage in life, such as childhood or old age; rather, it is a constant factor in human life. In tandem with this indubitable truth, Joan Tronto develops four phases of caring: caring about, taking care of, caregiving, and care receiving. All of these phases symbolise the interdependence of humans' existence.⁵⁰ Caregiving refers to the process of active engagement in the meeting of others' needs, while care receiving represents accepting care and hence reciprocal vulnerability and dependency.

The concept of vulnerability is central in care ethics and is a referent to susceptibility to harm common among all humans. In this regard, one is not talking about physical vulnerability only but also emotional and social vulnerabilities. According to care ethics, recognising our vulnerability and that of others is very important in decision-making on human genome editing.

⁴⁹ Noddings, Nel. "An Ethic of Caring." In *Caring: A Relational Approach to Ethics and Moral Education*, 2nd ed., University of California Press. 2013, 79-103.

⁵⁰ Tronto, Joan C. *Moral Boundaries: A Political Argument for an Ethic of Care*. New York and London: Routledge. 1993, 105-108.

Eva Kittay does this when she introduces the concept of dependency work, which valorizes caring for dependents as labor and directs a moral obligation to support caregivers and those in need.⁵¹

In care ethics, the recognition of human vulnerability goes much deeper with respect to the use of human genome enhancement technologies. Turning the other way around, this gives rise to a critique of societal structures that devalue or ignore care work, due to a reluctance actually to face human fragility and dependency as weaknesses in a culture that prizes independence. Care ethics challenges this by asserting that, so far as the human genome editing is concerned, vulnerability is an inseparable condition of the human nature and has to be especially cared for. Also, human society's moral and social systems should be designed in a manner where interdependence and mutual care are facilitated.

Furthermore, care ethics argues that decisions about genome editing have profound implications for families, communities, and future generations. As it is the case that the decision to edit the genome of an embryo is not solely a matter of parental choice. It impacts the future children, their potential siblings, extended family, and society at large. For example, when an embryo is genetically edited, the edition brings about changes that affect every cell in the baby's body. The effect of the edition goes a long way as it is passed down to the edited baby's posterity and it continues like that causing disable cum physical and mental pain to the baby involved and its posterity. It can also be stated as that of the unborn and future generations. Germline editing is usually very adverse and destructive in its outcome in many cases. Therefore, care ethics focuses on deliberation in which the voices and the concerns of all these stakeholders are included and valued. This relational approach makes sure that decision making is oriented towards collective well-being and not only focused on desires of the individual.⁵²

Context is another important factor which care ethics points out. The application of human genome editing technologies is also raised as moral questions which are also inextricably and contextually linked. Care ethics insists that genome editing shall be understood within the context of each particular individual's community, circumstances, history, and cultural origin. For example, the ethical acceptability of genome editing may lie far apart across cultural and social contexts. Whereas for some, human genetic manipulations are taboo in their societies because of strong cultural or religious objections, for many, like the Ramsey Colloquium, it will be very lenient or even supportive.⁵³ It is precisely this sort of contextual variation to which care ethics enjoins strong sensitivity, warning against the imposition of a one-size-fits-all ethical framework.

Further, care ethics in its commitment to social justice and recognition of the interdependency of all members of human society argues for the importance of considering the socio-economic context within the moral choice about human genome editing. Therefore, access to technologies of human genome editing is likely to be very unequally distributed, increasing

⁵¹ Kittay, F. Eva. *Love's Labour: Essays on Women, Equality and Dependency*. New York and London: Routledge. 1999, 57-82.

⁵² Kittay, F. Eva. *Love's Labour: Essays on Women, Equality and Dependency*. (2nd ed.). New York and London: Routledge. 34-56, 2020.

⁵³ The Ramsey colloquium seeks to address the moral justification of HGE from a perspective that combines religious thought with secular ethical reasoning. One of the most potent moral arguments made by the Ramsey Colloquium is the caution against 'playing God'—a phrase that captures the unease with overstepping boundaries traditionally ascribed to divine providence. They express concern that genome editing represent6s a significant departure from accepting the givenness of the human condition, potentially leading to a rejection of the limitations and vulnerabilities that are part of the human experience.⁵³ The group emphasises the importance of respecting the natural order and warns against the hubris of assuming complete control over our biological destiny. Ramsey Colloquium. The universal declaration of human rights fifty years later: a statement of the Ramsey Colloquium. 1998, 18-22. <http://www.leaderu.com/ftissues/ft9804/articles/ramsey.html>.

already huge inequalities in human societies. To curtail this problem, vital policies should be made which will enable the gains that come with the application of genome editing for all, not just a few, privileged persons. For instance, in Africa, as at June 2024, about 429 million people are living below the extreme poverty line of \$2.15 a day.⁵⁴ This represent more than 48 percent of Africa's population who are vulnerable due to poverty.⁵⁵ As it is the case that poverty is one of the wings upon which diseases thrive, due to Africa being the poverty capital of the world continent, it has the highest number of sickle cell traits: about 80 percent of sickle cell births happens in sub-Saharan Africa. Gene therapies for treating sickle cell diseases such as Casgevy and Lyfgenia costs \$2.2 million and costs \$3.1 million respectively. This makes it inaccessible to the poor sickle cell patients in Africa.⁵⁶

Care ethics, by focusing on the socio-economic context of the Africa continent so as to determine its variables of those who are vulnerable and dependent as indicated in the above paragraph will make sure that gene therapies for treating sickle cell diseases are available and accessible to poor sickle cell patients in Africa by *engaging with concerned healthcare providers within and outside the continent, the sickle cell patients, and African state leaders* to understand the impact of the high cost non-therapeutic genome editing on the patients, their families, the continent and the world at large and discuss potential and viable solutions such as subsidizing the price of gene therapies and giving out health loans.

5. Conclusion

The paper has shown that moral problems of human genome editing are the basic challenges that emanate from the use of genome editing technologies by humans for therapeutic or non-therapeutic purposes. In ethics, basically, and bioethics in particular, the moral justification of human genome editing has raised pertinent moral issues, problems and questions which has elicited different arguments from the consequentialist (utilitarian) and non-consequentialist (deontological) perspectives for their justification. The paper argued that consequentialist ethics and deontological ethics arguments as exemplified by the arguments of philosophers and bioethicists shows that arguments from the consequentialist and deontological perspectives do not adequately address the deeply relational and context-dependent nature of the ethical challenges that ensues from the use of human genome editing technologies for therapeutic and non-therapeutic purposes.

Therefore, the paper argued that care ethics through its argument on dependency and vulnerability within human relationships, provides a better, morally compelling justification for human genome editing. In conclusion, the paper argued that human genome editing has the potential to usher in a new era of human health and well-being, especially by following the care ethics perspectives to formulate policies about the production, availability and application of

⁵⁴Saifaddin Galal. "Extreme Poverty as Share of Global Population in Africa 2024, by County." *Statista*. 2024. Accessed on 21st June, 2024 at <https://www.statista.com/statistics/1228553/extreme-poverty-as-share-of-global-population-in-africa-by-country/#:~:text=Poverty%20levels%20remain%20high%20despite,below%20the%20extreme%20poverty%20line>.

⁵⁵ Children International. "Facts and Statistics about Poverty in Africa." Accessed on 21st June 2024 at <https://www.children.org/global-poverty/global-poverty-facts/africa>.

⁵⁶ Oluwatosin, Adesoye. "We Must Stop Neglecting Africa in the Global Fight against Sickle Cell." *Sickle Cell Disease. Bionews*. 2023. Accessed on June 21st, 2024 at <https://sicklecellaneamianews.com/columns/we-must-stop-neglecting-africa-global-fight-sickle-cell-disease/>.

human genome editing technologies and medicines, for the care of all human creatures, including those who are dependent and vulnerable.

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More than Words Can Settle

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Abstract

How to explain how objects persist from one-time location to the other within a metaphysical framework is known as the problem of persistence. Superficialism, relying on alternative argument, argues that the problem of persistence is a mere verbal dispute. This study identified the absurdity and inconsistencies in the alternative language. This is to show that superficialism is self-stultifying. The study showed, contrary to the claim of superficialism, that the alternative language argument is not a sufficient ground to dismiss the debate between endurantism and perdurantism and consequently other debates in philosophy as a non-substantive metaphysical debate. The paper also found the alternative argument of superficialism unreliable and absurd.

Keywords: superficialism, metaphysics, persistence, endurantism, perdurantism, alternative language.

1. Introduction

The first significant record of anti-metaphysical positions dates back to the mid-twentieth century, with Rudolph Carnap as the major actor. The summary of Carnap's position on metaphysical enterprise is that metaphysics is mere semantics and nothing more than linguistic choice. Thus, contrary to the position of ontologists, metaphysics has no bearing on objective reality. With the demise of verificationism, especially because it is self-stultifying, Carnap argues that all of metaphysics borders on the mere usage of language. Carnap claims that metaphysical questions and statements are mere proposals that are not capable of being true or false.¹

Although traditional metaphysics survived Carnap, a school of thought argues that metaphysics is largely not as important as presented. This school of thought avoids an outright dismissive attitude towards metaphysics. They adopt a deflationary and not dismissive attitude to metaphysics.² The proponents of this school of thought, such as Eli Hirsch and Kristie Miller, are classified as superficialists. Superficialism, as the name suggests, implies that a large number of ontological disputes lack depth, thoroughness, character, and serious thought. It particularly uses

¹ Carnap, Rudolph. Carnap Rudolf, "Empiricism, Semantics and Ontology." *The Linguistic Turn: Essays in Philosophical Method*. Ed. Richard Rorty. Chicago: University of Chicago Press, 1992. 73.

² Hirsch, Eli. "Ontology and Alternative Languages." *Metametaphysics: New Essays on the Foundations of Ontology*. Eds. David Chalmers and Ryan Wasserman. Oxford: Clarendon Press, 2009. 231-259, Thomasson, Amie. "Answerable and Unanswerable Questions." *Metametaphysics: New Essays on the Foundations of Ontology*. Eds. David Chalmers and Ryan Wasserman. Oxford: Clarendon Press, 2009. 444-445.

the problem of persistence as the flagship for the position that most metaphysical disputes are non-substantive. It argues that most metaphysical disputes are of the nature of the debate on the problem of persistence. Hence, once the claim that the problem of persistence is superficial is successfully argued, the claim will extend to many other metaphysical disputes.

Superficialists argue that if an alternative language is successfully created and sustained for the problem of persistence, it follows that ordinary language and the common-sense approach can adequately address the problem of persistence. Thus, there is no need to address the problem of persistence within a metaphysical framework. This essay will engage superficialism on the alternative language argument and argue that the alternative language argument failed in its quest to show that the problem of persistence is not substantive.

2. Superficialism on the problem of persistence

The problem of persistence is an ontological dispute on how objects persist through time. The problem of persistence makes a distinction between two identities of an object – numeric identity and diachronic identity. The identity of an object at a particular time location is the numeric identity of that object. While the identity of the object with itself at another time location is the diachronic identity.³ Persistence assumes that at each point in time, an object is identical to itself and this is not controversial. However, an attempt to explain the diachronic identity of objects is problematic. Hence, the problem of persistence in metaphysics is concerned with how best to explain how an object at T_1 is the same object at T_2, \dots , and T_n , that is, the diachronic identity of an object, and the relationship it has with its numeric identity.

Superficialism is the position that most metaphysical disputes are non-substantive; hence, metaphysics is not as important as ontologists claim it is. The summary of the superficialists arguments is that most metaphysical disputes are either verbal, non-substantive, merely terminological and therefore superficial; hence, the name Superficialism. To support this claim, Eli Hirsch, a proponent of Superficialism selects the problem of persistence as its flagship for the claim that most ontological disputes are mere verbal disputes. According to him, most ontological disputes are of the nature of the problem of persistence. Hence, once it is shown that, the problem of persistence is a mere verbal dispute and not a substantive ontological dispute, the arguments used can apply to other non-substantive ontological debates. In Hirsch's words:

One central kind of ontological dispute that I think is verbal concerns which sets of (successions of) bits of matter constitute a unitary physical object. Disputes of this kind have been pervasive in the recent literature. Perdurantists, endurantists, mereological essentialists, four dimensionalists, and sundry nihilists have engaged each other in lengthy and often highly theoretical disputes, though many of the disputes are, on my position, merely verbal... my arguments here in regard to the verbalness of this issue are to be understood as generalizable to many of the other issues in physical-object ontology.⁴

Thus, for Hirsch, any supposed dispute in physical-object ontology is a verbal dispute.

What immediately comes to mind when one is confronted with a 'verbal dispute' in philosophy is that there is a seeming dispute between at least two parties, and each party assumes there is a disagreement when there is none. In other words, a verbal dispute occurs when the disagreement is over meaning or words and not facts. While the disputants assume there is a genuine dispute, clarification of language or key terms can resolve the pseudo-dispute. This description of a verbal argument is aptly captured in the words of David Chalmers:

³ Lewis, David. *On the Plurality of Worlds*. Oxford: Basil Blackwell, 1986, 204.

⁴ Hirsch, Eli. "Ontology and Alternative Languages." 232.

Intuitively, a dispute between two parties is verbal when the two parties agree on the relevant facts about a domain of concern, and just disagree about the language used to describe that domain. In such a case, one has the sense that the two parties are “not really disagreeing”: that is, they are not really disagreeing about the domain of concern, and are only disagreeing over linguistic matters.⁵

For example, in America a football is spherical, has two pointed edges, and is brown. However, in Britain, a football is round, has no edge, and is black and white. If an American and a Briton are not aware of this difference, they may disagree over the appropriate description for a ball.⁶ A dispute of this sort is verbal, and to resolve it the disputants can be educated on the differences in what is called football in both countries. Awareness that a football can be round and black and white in some climes, and spherical and brown in some climes can resolve the dispute.

This is the sort of verbal dispute superficialists claim is common to many ontological disputes, and its whiff is easily detected in the problem of persistence. According to superficialism, the dispute on the problem of persistence is a debate between endurantism and perdurantism on whether persistence is three-dimensional or four-dimensional. The debate is reducible to whether objects have temporal parts or not; endurantists deny this, while perdurantism affirms it. While endurantism argues that persistence is three-dimensional, perdurantism argues that persistence is four-dimensional.⁷ Both the endurantist and the perdurantist insist the disagreement between them is substantive and not verbal.

However, according to superficialism, the disputants use different language to make the same claim and they are ignorant of this. Hirsch characterised it thus:

In my view, an issue in ontology (or elsewhere) is “merely verbal” in the sense of reducing to a linguistic choice only if the following condition is satisfied: Each side can plausibly interpret the other side as speaking a language in which the latter’s asserted sentences are true.⁸

Hence, in the language of perdurantism the claim that temporal parts exist is true, while in the language of endurantism the claim that temporal parts exist is false. Hence, it is not the case that temporal parts exist in objective reality, but it is a case of linguistic choice. The striking feature in this verbal dispute is that both disputants make the right assertions in their respective languages. Hence, in this ontological dispute on the problem of persistence, the dispute is verbal and the arguments for each side of the dispute are reducible to linguistic choice. Hirsch thus argues that:

We can, if we wish, think of X as forming its own linguistic community. If side X is perdurantism then X’s language is the language that would belong to an imagined linguistic community typical members of which talk like perdurantists, i.e., they assert the sentences that perdurantists assert and endurantists reject.⁹

In other words, the preferred language of perdurantism favours the term temporal parts in characterising persistence, while that of endurantism rejects it. In this case, it is a verbal dispute, and the assertions of the disputants are both right, even though they are not aware of this. Hence, the first feature of the verbal dispute that plagues the problem of persistence and consequently many ontological disputes is that the assertions of the disputants are both correct.

⁵ Chalmers, David. “Verbal Disputes.” *Philosophical Review*. 120:4 (2011), 515.

⁶ Manley, David. “Introduction: A Guided Tour of Metametaphysics.” *Metametaphysics: New Essays on the Foundations of Ontology*. Eds. David Chalmers and Ryan Wasserman. Oxford: Clarendon Press, 2009. 8.

⁷ Hirsch, Eli. “Ontology and Alternative Languages.” 233.

⁸ Hirsch, Eli. “Ontology and Alternative Languages.” 231.

⁹ Hirsch, Eli. “Ontology and Alternative languages.” 239.

A verbal dispute in the sense in which superficialism uses it has some characteristics peculiar to it. The first characteristic is that the assumed correct answer posed by each disputant does not depend on facts about the world, but depends on the meaning of the words used in the dispute. In other words, there is no evidence that the dispute is about facts, there is only evidence that it is about words. The disputants disagree more on the appropriate words to describe their reality, rather than describing the reality in the world.¹⁰ For example, if there is a dispute over a car, the disputants are more concerned about the best way to talk about the car, than disagree about the car itself.

The second characteristic of a verbal dispute according to superficialism is that the disputants agree on how the world is or the fundamental facts of reality. There is no genuine disagreement over the state of the reality at the center of their dispute.¹¹ For example, in a dispute over a car, the disputants all agree that a car is a vehicle, a car uses at least four wheels, a car has an engine, and so on. There is hardly any substantive disagreement on what a car is. All the disputants have a fair agreement on what the term 'car' is.

A third characteristic is that when a disputant is asked how the truth of her claim can be known, the disputant employs her linguistic intuitions to justify her 'truth'.¹² For example, the disputant may argue that her truth in the dispute over a car can be understood by those who know the meaning of a particular language used to describe the act of a car in motion. In the case of endurantism and perdurantism, superficialism argues that to justify the commitment to temporal parts, a perdurantist appeals to some basic intuitions on the use of temporal parts. With these three features, superficialism argues that a verbal dispute in ontology occurs when disputants who, although make the same claim, employ the use of different semantic preferences or different linguistic communities arising from their preferred convictions. Hirsch thus argues that:

... a dispute in which, given the correct view of linguistic interpretation, each party will agree that the other party speaks the truth in its own language. This can be put more briefly by saying that in a verbal dispute each party ought to agree that the other party speak the truth in its own language.¹³

Hirsch argues that ontological disputes on physical objects are of this nature. Each linguistic community is just talking past the other, and there is no substantial dispute at stake. This is because each community only employs an alternative language for referring to the same thing. The real object of dispute is not denied, but the problem is the words or key terms used in describing or referring to it. According to superficialism, the problem of persistence satisfies all the major features of a verbal dispute in ontology; hence, it is not a substantive metaphysical dispute.

Hirsch argues that if there is still doubt that the dispute on persistence is a verbal dispute and endurantism and perdurantism are equivalent theories after 'all has been said and done'; the sceptic may subject the dispute to an alternative language. The alternative language argument is, according to superficialism, the best way to realize that the problem of persistence is a mere verbal dispute and does not deserve a serious ontological discourse.¹⁴ The alternative language test reveals when two positions only adopt alternative ways of speaking on the same

¹⁰ Manley, David. "Introduction: A Guided Tour of Metametaphysics." 11-12.

¹¹ Manley, David. "Introduction: A Guided Tour of Metametaphysics." 12.

¹² Manley David. "Introduction: A Guided Tour of Metametaphysics." 12-13.

¹³ Hirsch, Eli. "Ontology and Alternative Languages." 239.

¹⁴ Yablo, Stephen. "Must Existence-Questions have Answers?" *Metametaphysics: New Essays on the Foundations of Ontology*. Eds. David Chalmers and Ryan Wasserman. Oxford: Clarendon Press, 2009, 506, Thomasson, Amie. "Answerable and Unanswerable Questions." *Metametaphysics: New Essays on the Foundations of Ontology*. Eds. David Chalmers and Ryan Wasserman. Oxford: Clarendon Press, 2009, 466.

things.¹⁵ In other words, if an alternative language can be successfully created and sustained for a dispute, the dispute is verbal and its theories are equivalent. Hence, if an alternative language can be created and sustained for the problem of persistence in metaphysics, then it follows that it is true that it is a mere verbal dispute. Consequently, the dispute can be subjected to linguistic interpretations in ordinary language, which can decide the appropriate language to describe the reality in contention.¹⁶ Hirsch thus argued that alternative language is necessary and sufficient to show that ordinary language suffices in resolving the problem of persistence, and consequently some other ontological disputes.¹⁷

3. Alternative language for endurantism and perdurantism

Alternative language is a peculiar language where a disputant can speak the truth in the language of the other disputant. In other words, alternative language is a situation where a disputant can express her claims in the language of the other disputant. A dispute is a mere verbal dispute when an alternative language is created for each side of the dispute and both sides can be interpreted as true in each alternative language. For example, if an alternative language is created for endurantism, both endurantism and perdurantism must be interpreted as true in that alternative language. Where an alternative language is created, but both sides of the dispute cannot be interpreted as true in the language, the dispute is not verbal. There is a substantive issue in that dispute. Hence, a successful alternative language is necessary and sufficient to show that a dispute is a mere verbal dispute.

Alternative language is such that a disputant P with conviction P can speak in a manner that the rival disputant E with conviction E will believe disputant P holds conviction E, yet disputant P still holds conviction P. Disputant E can also adopt a language that allows disputant P to believe that disputant E belongs to P's school of thought. Expatiating on this, Hirsch states that,

An "alternative language" for a given position is a language in which the proponents of that position could express all the (object-level) propositions they believe while asserting only sentences that proponents of the other position would assert.¹⁸

Some assumptions guide this alternative language suggested by superficialism. Hirsch adopted definitions for proposition, character of a sentence, and interpretation of a language, to set the foundation for the sort of language superficialism proposes as an alternative language. A proposition is a set of possible worlds, and in a sentence it is the set of worlds the sentence affirms to be true.¹⁹ The character of a sentence is a function that in context of utterance, assigns a proposition to that sentence.²⁰ The character is also defined as what gives the sentence its truth conditions, in context of utterance. Then interpretation of a language is determined by the character of its sentences; thus, the interpretation of a language makes it unique, and a distinct language cannot have the same interpretation. These are necessary to define the sort of language used as alternative language, and to set the restrictions for an alternative language.

¹⁵ Hirsch, Eli. "Ontology and Alternative Languages." 233-240.

¹⁶ Hirsch, Eli. "Ontology and Alternative Languages." 244-252.

¹⁷ Hirsch, Eli. "Ontology and Alternative Languages." 234, 239.

¹⁸ Hirsch, Eli. "Ontology and Alternative Languages" *Metametaphysics: New Essays on the Foundations of Ontology*. Eds. David Chalmers and Ryan Wasserman. Oxford: Clarendon Press, 2009. 235.

¹⁹ Lewis, David. *On the Plurality of Worlds*. 1986, Hirsch, Eli. "Ontology and Alternative Languages" 234.

²⁰ Kaplan, David. "Demonstratives: An Essay on the Semantics, Logic, Metaphysics, and Epistemology of Demonstratives." *Themes from Kaplan*. Eds. Joseph Almog et al. Oxford: Oxford University Press, 1989, 485-487, Hirsch, "Ontology and Alternative Languages." 234.

According to superficialism, an alternative language can be created for any dispute, but it can only be sustained when the dispute is a mere terminological dispute. Hence, an alternative language for the problem of persistence will succeed, while an alternative language for the dispute between the Jews and Christians will fail.

To illustrate this, Hirsch imagined a scenario where a die-hard endurantist by the name Edna, who as an endurantist, belongs to the E-community and speaks E-English. Edna is a researcher in a Department of Philosophy in a local university, but is interested in moving to a bigger and more reputable university. However, all the researchers in the Department of Philosophy of this bigger and more reputable university are die-hard perdurantists. These researchers have little tolerance for endurantism; Edna herself has little tolerance for perdurantism.

However, Edna's desire to be in this other Department of Philosophy far outweighs her intolerance for perdurantism. Edna then comes up with a trick: she convinces herself that since the point of departure between endurantism and perdurantism is on the existence of temporal parts, she will start speaking in a way that perdurantists will assume she is a perdurantist. However, in her mind she will remember that she is an endurantist. For example, when confronted with a yellow banana in the new department of philosophy, rather than say the "Banana is yellow", she will say the "Banana has a temporal part that is yellow". However, by "temporal part that is yellow" she actually means the banana is yellow" or "the colour of the banana is yellow". That way she will stay committed to her E-convictions, but a typical perdurantist will assume she speaks P-English and thus, belongs to P-community. With this Edna moves to the bigger Department of Philosophy where she will speak P-English, yet hold her E-convictions.

Now, there is a twist to this thought experiment, there is a man by name Pedro who is an unrepentant perdurantist, but is in love with Edna. Pedro assumes Edna will not grant him audience because of her intolerance for perdurantism. Pedro then decides to assume a language where he will speak like an endurantist, but retain his ontological commitment to temporal parts. Pedro if confronted with a banana in front of Edna, rather than say "The banana has a temporal part that is yellow", he will say "The banana is yellow" or "The color of the banana is yellow". With this E-English, Edna will embrace Pedro as a member of E-community and give him a chance. With this secret language, Pedro approaches Edna and got the chance he wished for. Edna did not know Pedro is actually a perdurantist, Edna's colleagues in her new department did not know she is an endurantist.

Edna confides in Pedro that she adopted P-English at work to be accepted in the department. Pedro, excited, tells her he will join her in using the alternative P-English. Pedro then switches to his P-English without Edna knowing he is actually a die-hard perdurantist. Pedro and Edna were married for several years and lived together successfully using the P-English. Edna worked in the bigger Department of Philosophy for several years without any of her colleagues realising she is a fake perdurantist. The morale of this thought experiment is that it is possible for a perdurantist to speak like an endurantist, without betraying his perdurantists commitment to temporal parts. It is also possible for an endurantist to speak like a perdurantist, without betraying her commitment to objects persisting wholly.

The more interesting aspect of this alternative language that a perdurantist will accept an endurantist as speaking the truth in P-English, and an endurantist will accept a perdurantist as speaking the truth in E-English. In other words, in shifting between P-English and E-English, nothing is lost because there is no substance which is the object of dispute between the two which the P-English or E-English will pick out. P-English is a comfortable alternative for E-English and E-English is a comfortable alternative for P-English.

To buttress the claim that an alternative language for a substantive dispute can be created, but cannot be sustained, Hirsch used an illustration of the Jews and Christians. Just as

superficialism narrowed the core of the dispute between endurantism and perdurantism to the existence of temporal parts, they also narrow the dispute between the Jews and Christians to whether Jesus is the saviour or not. While Christians insist that Jesus is the saviour, the Jews insist that Jesus is not the saviour. Now imagine that during the Second World War, some Jews find themselves in a situation where they have to pretend, they are Christians to survive. Now these Jews decide to adopt a secret language such that when they refer to Jesus, they actually mean Moses, and once they mention water, they actually mean mountain. Therefore, when they say, “Jesus walked on water”, they actually mean, “Moses descended from the mountain.” Imagine a scenario where someone is actually descending from the mountain, it will be strange if the Jews then say, “The man is walking on water.” Even if the Jews then find another secret phrase to represent “The man”, there will be too much confusion and complications arising from this alternative language between the Jews and Christians.²¹

Although, an alternative language for the dispute between Jews and Christians can be created, it cannot be sustained. There cannot be a sustainable alternative language for Jews and Christians, in which the set of characters in the sentences are fixed. Except the set of characters used for J-English, assuming this is the language of the Jews is changed from that of C-English, assuming this is the language of the Christians. The outcome will be confusion and complications. Hence, J-English is not a comfortable alternative for C-English and C-English is not a comfortable alternative for J-English. Shifting between C-English and J-English without losing anything, as it is in the case of P-English and E-English is not possible. That is, only if the alternative language created for the dispute between the Jews and Christians do not obey the principles guiding creating an alternative language will it be possible to sustain an alternative language for the dispute between the Jews and Christians. Any alternative language created for a substantive dispute, cannot be of the nature of that of a non-substantive dispute such as that between endurantism and perdurantism.

The implication of this alternative language argument is that while the beliefs of the Jews are not equivalent to that of the Christians, the thesis of endurantism is equivalent and translatable into the thesis of perdurantism. Hence, it is possible to create and sustain an alternative language for the problem of persistence, unlike for the dispute between the Jews and Christians.

4. Absurdity of the alternative language argument

One major challenge with superficialism on the alternative language argument is that it assumes that all metaphysical disputes are at par. According to Karen Bennett, there is nothing wrong with focusing on a particular ontological dispute and argue it is a non-substantive dispute. Nevertheless, there is no evidence that all metaphysical disputes are at par. That there is something wrong with a particular metaphysical dispute if indeed something is wrong, does not imply that something is wrong with all other metaphysical disputes; neither does it imply that something is wrong with metaphysics itself.²² Bennett argues that each ontological dispute should be handled on its own merit.

I agree with Bennett that ontological disputes ought to be engaged individually and not collectively, without sufficient evidence for the collective treatment. For example, Hirsch did not bother to give a sufficient argument for why his assertions on the problem of persistence should imply that all ontological disputes on physical-objects are verbal. Hirsch argues thus:

²¹ Hirsch, Eli. “Ontology and Alternative Languages.” 235-236.

²² Bennett, Karen, “Composition, Colocation and Metaontology.” *Metametaphysics: New Essays on the Foundations of Ontology*. Eds. David Chalmers and Ryan Wasserman. Oxford: Clarendon Press, 2009. 43.

I will focus on the issue between perdurantists and endurantists to illustrate the sense in which it seems to me that disputes in the ontology of physical-objects are verbal. My arguments here in regard to the verbalness of this issue are to be understood as generalizable to many of the other issues in physical-object ontology.²³

The question that arises from Hirsh's argument is on what ground(s) did he make the collective generalization?

Bennett takes the argument further to imply that metaphysics is unfairly singled out as a scapegoat for a characteristic problem.²⁴ Metaphysics is a branch of philosophy; hence, if it is true that metaphysics is impaired, would it follow that philosophy is impaired? Let us assume for the purpose of argument that metaphysics is meaningless, would it then follow that philosophy is meaningless? If the answer is no, then why is it that on the suspicion that something is wrong with an ontological dispute, it extends to other ontological disputes? In other words, suspicions that a particular metaphysical dispute is verbal, should not extend to other metaphysical disputes. To make this generalisation, superficialism must first produce the justification that other metaphysical disputes they dismiss are like that particular ontological dispute used as a yardstick.

One other major response to superficialists on the alternative language argument is that it isolates metaphysical questions. Metaphysical issues cannot be as bare as presented by superficialism. Superficialism reduced the dispute on persistence to whether temporal parts exist or not. However, metaphysical theories are premised on other theories or assumptions, they hardly stand-alone. For example, part of the motivation for endurantism is monism, the law of parsimony and the theory of universals. While the motivation for perdurantism are intrinsic properties, plurality of entities and the theory of particulars. According to Ryan Marquez,

Take, as an example, the relationship between perdurantism, modality, and properties espoused by Lewis as part of his counterpart theory; according to him, individuals do not wholly exist at any one point in time, which connects to his belief that individuals can exist in multiple possible worlds, which, in turn, connects to his belief that properties can be shared by individuals across possible worlds. In this case, the positions themselves and justifications that support them are all interconnected, casting doubt on the practicality of targeting disputes concerning a single one of them, and greater doubt on the likelihood that disputes between Lewis's view and other contenders would be "merely verbal" by Hirsch's lights.²⁵

Contrary to the assumption of superficialism, engaging the problem of persistence goes beyond the existence or non-existence of temporal parts. Both theories of persistence are influenced by other ontological theories such as nominalism and universals and particulars, and these other theories cannot be ignored in engaging the problem of persistence.

Moreover, restricting the problem of persistence to the affirmation or denial of the existence of temporal parts is an inadequate characterisation of the problem of persistence. Hawthorne accuses superficialism of deliberately ignoring ways that ontological disputes can have intensional significance.²⁶ Superficialism often ignores other significant aspects of the problem of persistence that can highlight the significance of the discourse on persistence. Nikk Effingham, for

²³ Hirsch, Eli. "Ontology and Alternative Languages." 232.

²⁴ Bennett, "Composition, Colocation and Metaontology." 41.

²⁵ Marquez, Ryan. "Against Metametaphysical Semanticism." *Portland State University McNair Online Journal*: Vol.7: Issue1, Article 14 (2013), 10.15760/mcnair2013.69, 9.

²⁶ Hawthorne, John, "Superficialism in Ontology." *Metametaphysics: New Essays on the Foundations of Ontology*. Eds. David Chalmers and Ryan Wasserman. Oxford: Clarendon Press, 2009. 230.

example, argues that there are three versions of the problem of persistence. They include, the dimensionalists version, the occupationalist version and the populationist version.²⁷

The dimensionalist version is the aspect of the problem of persistence that is concerned with whether objects have temporal parts or not. In other words, the dimensionalist version of the problem of persistence features debate on whether things are three-dimensional or four-dimensional. This is the bulk of the debate on the problem of persistence, and this is the only aspect superficialism concentrates on. However, dimensionalism has some consequences that can lead to other issues on persistence, such as populationism. The populationist version of the problem of persistence rests on the consequence of allowing temporal parts into our ontology. Populationists argue over whether allowing temporal parts into our ontology inflates ontology or not. In other words, they argue on how temporal parts will add or not add instantaneous objects to our ontology.²⁸

Occupationalism focuses on how objects are located in space-time. In other words, occupationalists debate on the relation of an object and the space it occupies at each time of its existence. Physicists, who mention the problem of persistence, approach the problem from this version. The discourse in occupationalism is on how an object can occupy multiple regions in time or not.²⁹ The importance of an ontological discourse of the problem of persistence goes beyond temporal parts, but also asks important questions on how objects occupy space regions without contradictions. Moreover, it will raise questions on whether inflation of objects will occur because of temporal parts, and the consequence of an inflated ontology. Superficialism did not consider these other versions and consequences of theories of persistence in the alternative language argument, and this makes it easier for superficialism to claim that the problem of persistence is a verbal dispute. These other aspects of the problem of persistence will add more value to the problem of persistence, and make it a more interesting and robust debate in metaphysics.

Engaging the problem of persistence, within a metaphysical framework, requires examining all the significant aspects and versions. Superficialism erred in not engaging the problem of persistence holistically. There is a need to engage the immediate positions that are dependent on the arguments on persistence.

Apart from deliberately ignoring other versions of the discourse on persistence, superficialism mixed up some details that affect the alternative language argument. Superficialism argues that alternative language is necessary and sufficient to determine when a dispute is substantive and non-substantive. Superficialism used the example of a failed alternative language for the dispute between the Jews and Christians to argue that, unlike the dispute on persistence, the dispute between the Jews and Christians is substantive. However, as identified by Hawthorne, Hirsch uses behaviour and a priori necessity, which are non-linguistic attitudes to argue that the dispute between Jews and Christians is substantial, while that between endurantism and perdurantism is non-substantive.³⁰

Hirsch argues that,

Jews and Christians differ over their non-linguistic behaviour and attitudes, but there are no such differences between endurantists and perdurantists... perdurantists and endurantists regard their respective positions as a priori necessary, and as having no bearing on their judgements about what experiences people have had and will have. Jews and Christians do not regard their positions as

²⁷ Effingham 2012, "Endurantism and Perdurantism." *Continuum Companion to Metaphysics*. Eds. Robert Barnard and Neil Manson. Continuum International Pub. Groups. 2012.170.

²⁸ Effingham, Nikk, "Endurantism and Perdurantism." 172.

²⁹ Effingham, Nikk, "Endurantism and Perdurantism." 186-187.

³⁰ Hawthorne, John, "Superficialism in Ontology." 216.

a priori necessary, and do regard them as having a bearing on what experiences people have. (A related point is that Jews and Christians, but not endurantists and perdurantists, will give conflicting pictorial representations of certain aspects of reality.) All of these considerations enter into charity to use.³¹

In this argument, Hirsch identified a priori necessity as characteristic of the dispute on persistence, but not that of the Jews and Christians. Hence, there are behavioral differences that influence the alternative languages for the disputes between the Jews and Christians. These behavioral attitudes affect the alternative language for the dispute between the Jews and the Christians.

There are attitude differences between the Jews and Christians that makes it impossible for them to speak alternative languages. For example, the Jews probably do not eat pork, while Christians do. Hirsch argues that there are no such behavioral differences between endurantism and perdurantism; hence, it is possible to sustain an alternative language for them. John Hawthorne disagrees with Hirsch on this and argues that first it is not true that there no behavioural attitude exists between endurantism and perdurantism. Neither is it true that either theory of persistence claims a priori necessity. Hawthorne argues that,

For example, perdurantists are more prone to think abortion disputes are shallow on the grounds that their metaphysic naturally lends itself to multiple candidates for the referent of 'I' of varying temporal lengths, while standard versions of endurantism repudiate multiple candidates. This in turn tends to have some effect on the depth of emotional response to the relevant ethical disputes.³²

Hawthorne's argument implies that there is at least one behavioral difference between endurantism and perdurantism, contrary to the claim of superficialism that there is none.³³ Simply put, the alternative language argument is an unreliable and absurd way to determine if a dispute is substantive.

Another challenge with the alternative language argument is that it fails its own test and consequently is absurd. I will illustrate this by stretching the scenario given by Hirsch as an alternative language for the debate between endurantists and perdurantists.

5. More on alternative language for endurantism and perdurantism

Once again meet Edna and Pedro, introduced to us by Hirsch.³⁴ Edna is a die-hard endurantist who decides to seek employment into a department of die-hard perdurantists. Edna knows that if the perdurantists in this department knows that she is an endurantist, she may not be employed in the department. Hence, Edna decides to pretend she is a perdurantist. Pedro is an unrepentant perdurantist who is in love with Edna, he knows Edna is a die-hard endurantist but is determined to marry her. Pedro knows that if Edna is aware he is a perdurantist she will likely not be interested in him. Hence, Pedro decides to disguise as an endurantist to get the attention of Edna. Hirsch classifies the language of endurantism as E-language and the language of perdurantism as P-language. Edna adopts P-language to represent her endurantism convictions,³⁵

³¹ Hirsch, Eli, "Ontology and Alternative Languages." 247.

³² Hawthorne, John. "Superficialism in Ontology." 216.

³³ I believe superficialism would have noticed this if they examined the issue of persistence holistically. This is yet another fall out of their failure to do a balanced examination of the problem of persistence in ontology.

³⁴ Hirsch, Eli. "Ontology and Alternative Languages." 233-234, 256-257.

³⁵ Convictions here do not mean the state of mind of a person, but the thesis of the theory the person believes is correct. I use convictions here because the thesis of the theory is what convinces the person that the theory

without betraying her endurantism convictions and she is employed into her desired department. Pedro adopts E-language to convey his perdurantism convictions without betraying them, yet speaks like an endurantist. Pedro also succeeds in marrying Edna.

All Edna has to do is to replace 'the state of an object at a particular time' with 'temporal parts' in her language. All Pedro has to do is to replace 'temporal parts' with 'the state of an object at a particular time' in his language. In other words, rather than mention 'temporal parts' Pedro will simply describe the state of the object of an object at a particular time location. Rather than describe the state of an object at a particular time, Edna will use temporal part. Let us consider this example, if Edna wants to say, "The car is green." Edna will say, "The car has a temporal part that is green." However, Edna is convinced that by "temporal part" she means, "The car is green at this time location" and nothing more. If Pedro wants to say, "The car has a temporal part that is green." Pedro would rather say, "The car is green at this time location." To the endurantists, Edna's adopted language is false. However, to the perdurantists Edna's adopted language is true. Remember that the perdurantists do not know that by temporal parts, Edna means the whole state of the object. To the endurantists, Pedro's adopted language is true, but to the perdurantists, it is false. However, both Edna and Pedro stayed true to their convictions on persistence. The only thing they did was to adopt the linguistic choice of the other theory.

According to superficialism, the implication of this is that it is possible for an endurantist to conveniently speak like a perdurantist, without betraying her convictions. It is also possible for a perdurantist to conveniently speak like an endurantist without betraying her convictions. If all endurantists then agree that rather than describe 'the state of objects at each particular time location', they will use 'temporal parts', then the problem of persistence is over. If perdurantists agree that rather than use temporal part, they will describe 'the state of an object at a particular time', and then the problem of persistence is over. As far as superficialism is concerned, alternative language exposes the fact that all there is to the problem of persistence is linguistic choice.

Let us assume a scenario where Edna, an endurantist who is pretending to be a perdurantist, is confronted with a situation where she needs to decide whether or not the diachronic identity of an object coincides with its numeric identity. For example, she is in a class in her new department teaching as a disguised perdurantist. She uses P-English to convey her endurantist convictions. Edna uses the phrase temporal part when she describes the state of an object at a particular time. For example, if Edna wants to say that, "The bunch of bananas is green at time location T_1 ", she says, "The bunch of banana has a temporal part that is green at time location T_1 . However, Edna's ontological conviction is not committed to the existence of temporal parts. Edna merely uses temporal part to mask her endurantism convictions. The students are nevertheless already convinced Edna is a perdurantist.

Then she suddenly needs to speak on whether the diachronic identity of an object is identical with its numeric identity or not. For example, if a student suddenly asks in the class if the diachronic identity of the bunch of bananas is identical with its numeric identity. For the perdurantist, the diachronic identity of an object is not identical with its numeric identity, while for the endurantist it is. If Edna affirms that the diachronic identity of an object is identical with its numeric identity, the perdurantist will accept her statement as true. However, affirming that the diachronic identity is identical with the numeric identity of an object will betray the endurantist convictions of Edna. Hence, in this case, the alternative language cannot be sustained.

This is because she cannot convey her conviction that the numeric identity of the bunch of bananas is identical to its diachronic identity with the alternative language. If Edna says,

is correct. For example, what convinces Edna that endurantism is correct is that it argues that objects persist wholly, and she is convinced that objects persist wholly.

“Yes, the numeric identity of the bunch of bananas is not identical with its diachronic identity”, she will maintain her pretense as a perdurantist, but she will betray her conviction as an endurantist. If Edna says “No, the numeric identity of the bunch of bananas is identical with its diachronic identity”, she will betray her pretense and it will be clear that she is not a genuine perdurantist. Hence, her alternative language cannot be sustained.

I will create another scenario where an alternative language for the dispute on persistence cannot be sustained. Supposing Pedro, a perdurantist pretending to be an endurantist, has to use E-English to say that Jane at a particular time location persists to another time location. Pedro then says, “Jane persists from T_1 to T_2 .” Then an excited endurantists, not aware that Pedro merely adopted E-English to mask his perdurantist convictions then say, “You get it, Jane persists wholly from T_1 to T_2 .” Pedro will reply, “Yes, she persists wholly from T_1 to T_2 .” Remember by wholly he means temporal parts. Then the excited endurantist says, “These perdurantists will not get it that the change an object goes through makes no difference in its identity at each time location, right?” If Pedro says, “Yes, of course the change an object goes through makes no difference in its identity at each time location,” the endurantist audience will be further excited, but that will betray the convictions of the perdurantist who argues that by reason of intrinsic change, changes object go through makes significant difference in its identity. At this point, it is either Pedro affirms and betrays his perdurantist convictions and blows his cover. Whichever way, E-English will not be sustainable for perdurantist convictions. This is because the perdurantist conviction cannot be sustained with that alternative language.

Let us assume that when the Edna and Pedro say ‘yes’, they mean ‘no’ and when they say ‘no’ they mean ‘yes’. Hence, for example, when Pedro says, “Yes, of course the change an object goes through makes no difference in its identity at each time location,” he meant ‘no’. Hence, his pretence and convictions are preserved and the alternative language still sustained. The challenge with this assumption is that it contradicts one of the fundamental rules for creating an alternative language, which is, “A language has only one distinct interpretation.”³⁶ The alternative language for the dispute between endurantism and perdurantism rests on the assumption that the terms or phrases substituted have the same meaning. In other words, temporal part merely describes the state of an object at a particular time location. The language cannot be stretched to the extent that the clear meaning of words or phrases will be denied. Hence, ‘yes’ cannot be used to mean ‘no’ in an alternative language. ‘Yes’ has a distinct interpretation from ‘No’ and they cannot have the same meaning. However, superficialists argue that ‘temporal part’ and ‘the state of an object at a particular time location’ are equivalent.

According to Hirsch,

No restrictions on the semantic structure of an alternative language are assumed beyond the following: the set of characters of the sentences in the alternative language is the same as the set of characters in the original language, the characters being merely redistributed over the sentences in shifting from one language to another. (To the extent that one can associate a sentence’s character with its “meaning” the stipulation is that in shifting from one language to another nothing is gained or lost in what can be “meant” by one’s asserted sentences.)³⁷

Hence, so long as the set of characters in the alternative language and the original language remains the same, such that I can switch from the original language to the alternative language without changing the meaning of the sentences, except for the stipulated meaning, I have preserved the structure of the language. For example, where an endurantist uses “Temporal parts” it should be the case that, “The state of an object at a particular time location” serves as a switch

³⁶ Hirsch, Eli. “Ontology and Alternative Languages.” 235.

³⁷ Hirsch, Eli. “Ontology and Alternative Languages.” 235.

between the alternative language and the original language. The meaning of the original language should not change beyond these stipulated alternative words. In other words, the characters in the alternative language should be such that the original language is preserved when the alternative word or words are switched back.

Bearing in mind however, that the claim of superficialism that an alternative language shows that the dispute between the endurantism and perdurantism is non-substantive fails, even when the semantic structure as argued by Hirsch is preserved. It may be the case however, that the alternative language for both the dispute between the endurantists and perdurantists is a mere terminological debate. On the other hand, it may be that an alternative language, as presented by superficialism is not capable of distinguishing between a substantive and a mere verbal dispute. Nevertheless, is it the case that an alternative language, as outlined by superficialism, can be sustained for the problem of persistence, such that the semantic structure of both the original language and the alternative language is preserved?

Let us imagine a conversation between Edna and a fellow researcher in her new department. Let us assume that Edna and the fellow researcher, who is a perdurantist, are engaged in a conversation about a car that was green in 2010 and red in 2015. Edna needs to use P-language to engage in this conversation, while the researcher speaks as a perdurantist. If there is a need to affirm that “The green temporal part of the car did not persist till 2015, because objects do not persist wholly,” How would Edna say this using P-language? Bearing in mind that by ‘temporal part’ Edna means ‘how an object is at a particular time’.³⁸ Also, bearing in mind that the semantic structure and characters must be preserved. Edna’s original statement will then be, “The car as it is in 2010 did not persist till 2015.” The fellow researcher will accept the statement as true, but will the statement preserve or betray Edna’s original endurantist convictions? The conviction of the endurantist is that objects persist wholly from one time location to another. Hence, Edna’s original endurantist conviction will not be preserved in an alternative language. An attempt to sustain an alternative language between endurantism and perdurantism will be absurd. The implication of this is that although an alternative language for the dispute between endurantism and perdurantism can be created, it cannot be sustained.

For the purpose of argument, assuming that the argument of superficialism on alternative language is correct, the alternative language so far has not succeeded in showing that the dispute between endurantism and perdurantism is a mere verbal dispute and not substantive. Although, there are instances in which the alternative language can function to render the dispute between endurantism and perdurantism verbal, there are also instances where the alternative language can function to render the dispute between endurantism and perdurantism substantive. Subsequently, it is either the alternative language is flawed, or the problem of persistence is substantive.

Hirsch gave other instances of using the alternative language to determine the substantiveness of a dispute. The first is for the dispute between the Jews and Christians and the other is that between the Platonists and Nominalists.³⁹ According to Hirsch, these two instances emphasise that an alternative language cannot be sustained for a substantive dispute. I will examine these two other examples and argue that the alternative language argument can be sustained for the disputes, subsequently; the alternative language is an absurd way to prove that an argument is substantive or otherwise.

³⁸ Hirsch, Eli. “Ontology and Alternative Languages.” 233.

³⁹ Hirsch, Eli. “Ontology and Alternative Languages.” 252-256.

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A Hylomorphic Analysis of the Problem of Persistence and Identity of Objects

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Abstract

This article aims to analyze the problem of the identity and persistence of objects based on the hylomorphic doctrine, that is, the doctrine according to which objects are mereological compositions of the elements of form and matter. After introducing the contemporary discussion on the problem of identity and persistence and identity of objects, we propose a brief formalism of the logic of the relationship between part and whole or mereology to define the solution to the problem under study that defines a possible solution for it.

Keywords: identity, persistence, mereology.

1. Introduction

How do physical objects persist over time through the natural changes of their constituent parts? This question is one of the central questions of contemporary metaphysics. It was indicated by the famous example of the ship of Theseus. Theseus' ship walks on the sea and has its parts replaced as the journey progresses. Then it arrives at its destination with all or a set of its parts replaced. How can we say that the ship that arrived is the same ship that left? Another example is the river of Heraclitus; The waters of the river flow over time, so can we bathe in the same river twice?

There are arguments to explain the persistence and identity of objects with their changes over time. Such arguments are for or against two well-defined theses: endurantism and perdurantism. They seek to answer the question: how does a material object persist over time? We have four answers to consider here; There are others of course, but these four are the ones that touch us the most. Perdurantists of the perdurantist thesis consider that material objects are extended in four dimensions (three spatial and one temporal) and are composed of temporal parts. In this case, persistence over a time interval is a matter of being partially present at different times in such an interval. Endurantists of the endurantist thesis consider the material object to be an extensive entity in three dimensions (all spatial). Persistence over a time interval is a matter of being localized at different times in that interval (that is, being multi-localized in a series of non-simultaneous three-dimensional regions). Stage *-theorists* consider the persistent material object to be an extended entity in three dimensions (all spatial). In this case, persistence over a time interval is a matter of having certain counterpart relations concerning other objects located at different times in that time interval. Regionalists of the regionalist thesis consider a persistent material object to be an entity extended in four dimensions (three spatial and one temporal) but

remain neutral about whether or not it has commitments to parts of its own (whether spatial or temporal). In this case, persistence over a time interval is a matter of bearing a location relation concerning a region that intersects more than one time, that is, the region containing points in more than one hyperplane of the block that remains the object in question.

Lewis (2001: 202) puts the main theses of endurantism and perdurantism as follows:

The question of the intertwining of parallel worlds the mundane problem of identity across time; and our problem of accidental intrinsics is parallel to the problem of temporal intrinsics, which is the traditional problem of change. Let's say that something *persists* if and only if, in one way or another, it exists at various times; this is the neutral word. Something *hardens* if and only if it persists by having different temporal parts, or stages, at different times, although no part of it is fully present at more than one time, whereas it *hardens* if and only if it persists by being fully present at more than one time. what a while. Perdurantism corresponds to the way a road persists through space; part of it is here and part of it is there, and no part is fully present in two different places. Endurantism corresponds to how a universal if such things exist, would be fully present wherever and whenever it is instantiated. Endurance involves intertwining: the content of two different tensions has the endurant thing as a common part. Duration does not.

Thus, according to the endurantist thesis, physical objects persist and are identical through time, being three-dimensional and being fully present in space. According to the perdurantist thesis, also called four-dimensionalist, objects have a temporal dimension and, therefore, are only present temporally according to their parts. A widely debated aspect is the relationship between endurantist and perdurantist change with Leibniz's principle of identity. In mereological terms of proper parts of a physical object, Leibniz's principle can be described according to Varzi's presentation [2009, formula 27]:

$$(\forall x \forall y (PPxz \wedge PPzy) \rightarrow ((x=y) \leftrightarrow \forall z (PPzx \leftrightarrow PPzy)))$$

in which, for example, $PPxy$ is interpreted in natural language as 'x is a proper part of y' and says that two physical objects x and y are identical if and only if they have the same proper parts PP. Now, change can contradict Leibniz's principle because an object can change in time with its temporal parts and remain identical to itself.

Having presented the definitions of the varieties of endurantism and perdurantism, let us now consider the negative arguments of these varieties in the context of the debate about the identity and persistence of objects in metaphysics.

2. Arguments against endurantism and perdurantism

Endurantism can have varieties to avoid contradiction with Leibniz's principle, but the solutions have been problematic with the problem of temporary intrinsics. Perdurantism or four-dimensionalism, according to some objections in the literature, seems to be counter-intuitive because the objects of common experience in common sense have three dimensions. So, it appears that, based on current discussions, another solution appears to be required to deal with the problem of object persistence and identity. Let us consider further the objections to endurantism and perdurantism. As Costa (2022: 10) explains:

The first serious objection against endurantism that goes back to ancient philosophy... comes from change. In its simplest form, the objection sounds as follows. Change seems to require difference: if something has changed, it is different from how it was. But if it is different, it cannot be identical, under penalty of contradiction. Well, endurantism requires that something that changes be identical throughout the change, so, the objection goes, endurantism is false. In this simple form, the objection has a simple answer, which is based on the distinction between

qualitative and numerical identity outlined. The kind of difference required by change is qualitative difference (not being perfectly identical), not numerical difference (being two instead of one). Therefore, in a change, you can be the same as before (numerical identity) as well as different from before (qualitative difference), without this being contradictory.

Thus, endurantism can face the objection and explain the change of qualitative properties over time. Perdurantism also has an interesting objection relevant to our purposes, as Costa continues (2022: 20):

First, we should wonder: why is endurantism supposed to be more intuitive than perdurantism? What aspects of perdurantism are supposed to be counterintuitive? Perdurantism implies that when we see a tree or talk to a friend, what we have in front of us would not be the whole tree or the whole friend, but only parts of it. This also implies that objects are extended in time just as they are extended in space and just as an event is supposed to be. These mereological and locative consequences of perdurantism are supposed to be counterintuitive; Intuitively we would say that what we have in front of us in the cases described are a whole tree and a whole person and that we are extended in time as in space or as the events are supposed to be.

Thus, perdurantism can be objected to as being counterintuitive to the common sense that objects have three dimensions.

We can highlight here two responses to the problem of persistence and identity of objects. A hylomorphism or substantial doctrine and a doctrine of processes. Let us briefly consider each.

Regarding process theory, Seibt (1997: 20) states that:

Ontological process theory differs fundamentally from any familiar process-based scheme. In this theory, called DMT (*Dynamic Mass Theory*), all entities exist as four-dimensional or less four-dimensional activities and are more or less geometric, as in the limiting case. The main examples of mass dynamics are 'subjectless' activities, that is, activities not performed by a subject, whether animate or inanimate, as is the case of an electromagnetic wave traveling in space... These complexes of subjectless activity and parts of such complexes are the ontological categorizations for the denotations of our familiar discourse about different types of changes and entities that change; generations, destructions, locomotions, activities linked to subjects, actions, forms, phenomenal qualities, masses, collections, things and people, etc.

Thus, Johanna Seibt's theory opposes Aristotle's theory of substance to a classical ontology and adopts a dynamic ontology of perdurantist or four-dimensional processes. But we saw that four-dimensional or perdurantist theories are subject to the objection of being counter-intuitive and such a theory would only explain the change in accidental properties of substances.

There are in Aristotle, in the famous *Metaphysics*, books G, D, and Z, as well as the intentional mereology of occurrences and continuants, which are objects whose parts change over time, some important elements for understanding the persistence of objects with time. Initially, we can highlight that the concepts of form and matter of physical objects would support a view that these are constitutive parts of objects and can be a reference to raise and confirm the hypothesis that the mereological hylomorphism, according to which objects are preeminently made up of formal and material parts, is capable of solving the problem of the persistence and identity of objects.

The substance theory of neo-Aristotelian mereological hylomorphism, in our view, still has the advantage over Seibt's dynamic mass theory for actually explaining the persistence and identity of objects in a way that does not contradict the common sense that objects are fully present in space and present an essential form that captures the persistence and identity of objects. In our

view and as we intend to detail throughout the development of this project, the dynamic mass theory would only explain the change in accidental properties of objects.

Thus, the present article consists fundamentally of raising and confirming the hypothesis of mereological hylomorphism together with the essentialist supplementary hypothesis as a solution to the problem under study that overcomes the aforementioned limitations of endurantism and perdurantism previously highlighted, since our hypothesis is based on the notion of property of the essential form of the substance and not merely in the change of common properties of objects as presupposed by endurantism and perdurantism. Our research contribution to the debate on persistence and identity constitutes the presentation of a theory of persistence and identity in the direction pointed out by the works of Koslicki (2006) and thus offering a more detailed mereological treatment of neo-Aristotelian mereological hylomorphism and applied to the problem in question. study. We intend to point out that there are gaps in Koslicki's work (2018) that can be remedied with a more complete mereological analysis and with the formulation of mereological essentialism with a new solution to the problem under examination in this article.

3. Hylomorphism, mereology, endurantism, and perdurantism

The problem of persistence and identity of objects presupposes the notion of time. We can then consider the relations between mereology and time, that is, temporal mereology. According to Imaguire's explanation (2006: 77):

A mereological theory can integrate the dimension of time into its analysis in two distinct ways. Firstly, consideration can be given to the analysis of entities that have an intrinsically temporal nature, such as events in general. As such entities persist through time, they are technically called “enduring” (*perdurants*) or “occurring” (*occurents*). Occurrences are events, processes, and states or phases. Some examples have already been mentioned: a football match, a person's life, and a war. The parts of an occurrence are equally temporal occurrences (the first term of the match, the first year of life, the last battle).

After introducing the first temporal aspect, Imaguire (2006) introduces the second aspect saying that it is possible to analyze entities that do not have an essentially temporal nature, but that have an existence over time. As such entities have a continued existence over time, they are technically called “continuants”. Imagine then cites examples of continuants that would be: a human being, a tree, and a ship (Theseus' famous ship is one of the preferred examples of a continuant, whose problem can be solved very elegantly in mereological theory. In general, continuants last for some time interval, although extreme cases of entities that exist only for some instant are possible (a ray, for example), such as Poland or the *Pink Floyd group*.

Constants and occurrences require an intentional mereological treatment in which the dimension of time is taken into account. Still, as Imaguire[2006) explains, continuants change parts throughout their existence. For continuants, therefore, what Aristotle realized about substances is valid: they can have distinct and contradictory properties throughout their existence. To account for this fact, the most obvious formal solution is the addition of a temporal indexical: $x < y$ at t_n or $x <_{t_n} y$ which means in natural language x is part of y at time t_n . As in the case of occurrences the question about temporality makes no sense, the introduction of a temporal indexical is unnecessary – its formalization can be completely framed within the axiomatic system of classical extensional mereology. For continuants, classical extensional mereology must be expanded with some new definitions and axioms.

Thus, the classical extensional mereology relevant for our purposes of defining mereological hylomorphism must be expanded with intentional notions to include time as follows:

$$a \text{ }_{\text{tn}} \text{ } b =_{\text{def}} (a <_{\text{tn}} b) \wedge (b <_{\text{tn}} a)$$

$$a \circ_{\text{tn}} b =_{\text{def}} \exists x ((x <_{\text{tn}} a) \wedge (x <_{\text{tn}} b))$$

The existential quantifier also needs to be modally modified to express the temporality required by the problem of the persistence and identity of objects:

And the $\leftrightarrow_{\text{tn}} (\text{Ex}_{\text{tn}} a)$

$\text{Ex}_{\text{t}} a \rightarrow a <_{\text{t}} a$

$a <_{\text{t}} b \rightarrow \text{Ex}_{\text{t}} a \wedge \text{Ex}_{\text{t}} b$

$a <_{\text{t}} b \wedge a <_{\text{t}} c \rightarrow a <_{\text{t}} c$

$a \text{ }_{\text{tn}} \text{ } b \rightarrow (x_{\text{t}} b \wedge x_{\text{tn}} a)$

It is important to highlight that some theorems can be deduced from the axiomatic system presented above representing variations in composition to explain the identity and persistence of objects.

Once the fundamental axioms of temporal mereology have been introduced, it is worth noting with Lewis (2001: 202) that:

The question of the intertwining of parallel worlds the mundane problem of identity across time; and our problem of accidental intrinsics is parallel to the problem of temporal intrinsics, which is the traditional problem of change. Let's say that something persists if and only if, in one way or another, it exists at various times; this is the neutral word. Something hardens if and only if it persists by having different temporal parts, or stages, at different times, although no part of it is fully present at more than one time, whereas it hardens if and only if it persists by being fully present at more than one time. what a while. Perdurantism corresponds to the way a road persists through space; part of it is here and part of it is there, and no part is fully present in two different places. Endurance corresponds to how a universal if such a thing exists, would be fully present wherever and whenever instantiated. Endurance involves intertwining; the content of two different tensions has the enduring thing as a common part. Duration does not.

And so Lewis's explanation continues with the further claim that enduring through time is analogous to the transmundane identity of intertwined common parts of the world and that enduring through time is analogous to transmundane identity if one can call it that. a trans-mundane individual composed of distinct parts of non-intertwined mutes.

Lewis also adds to the debate about the persistence and identity of objects in which endurantism and perdurantism are opposed.

Once the considerations about endurantism and perdurantism that define the debate have been made, let us next consider the classic question of temporary intrinsics and their relationship with the aforementioned debate.

4. Related question of temporary intrinsics

He explains that the main and decisive objection against endurance, as an approach to the persistence of ordinary things like people and puddles, is the problem of temporary intrinsics. Persistent things change their intrinsic properties. There would then be three possible solutions to this problem. One solution is that, contrary to what one might think, shapes are not intrinsic properties. They are disguised relationships, which an enduring thing can exhibit over time. The same endurant can exhibit the double form relation at times, and the straight form relation at other times. In itself and considered independently of its relations to other things, it

has no form at all. Lewis further states that the same can be said about all other temporary intrinsics; they must all be reinterpreted as relations that something with an invariable nature exhibits at different times. The solution to the problem of temporary intrinsics is that there are no temporary intrinsics at all. This is, in Lewis' opinion (2001: 204), absolutely incredible, if we are talking about the persistence of ordinary things. If we know what a form is, we know that it is a property and not a relation.

Thus, as Lewis explains, endurantism is defended by perdurantism by stating that there are no temporary intrinsic properties. As Lewis further explains, two other solutions seem to reject endurantism. A second possible solution that can be defined is to state that the only intrinsic properties of a thing are those that it has at the present moment. Other times are like false stories: they are abstract representations, composed from the materials of the present, that represent, well evil, the way things are. When it only has different intrinsic properties according to one of these tenses that Lewis calls arts, that is, it does not mean that this, or any part of it, or anything else, just has them; no more so than when a man is dishonest according to the *Times* or honest according to the *News*. This is a solution that rejects endurance because it rejects persistence entirely. And this, as mereologists still explain, is even less credible than the first solution. Saying that there are no other times, as opposed to false representations of these, goes against what is commonly believed. No man, unless he is at the moment of his execution, believes that he has no future; even less does anyone believe that it has not passed.

The second solution is called presentism for the current philosophy of the persistence and identity of objects. Yet a third solution would be possible. Different forms and different temporary intrinsics generally belong to different things. Endurance must be rejected in favor of perdurance. We harden, we are made of temporal parts and our intrinsics are properties of these parts, in which they differ from each other. There is no problem at all about how different things can differ in their intrinsic properties. In the conclusion of this article, we will return to the parallel issue of temporary intrinsics and argue that mereological hylomorphism seems to offer a solution to this problem.

In the final considerations of this work, we will briefly return to the issue of temporary intrinsics and offer a position on this issue based on an axiomatic formulation of mereological hylomorphism.

Having considered the question of intrinsics, we will now focus on the related question of the relevance of the debate on endurantism and perdurantism.

5. Related question: About the relevance of the debate between endurantism and perdurantism

Some authors offer a more precise characterization of the debate over perdurantism and endurantism. According to Sider (2001) and Magidor[2016], it can be said that x is an instantaneous temporal part (PTI) of y if and only (i) exists in, but only in t ; (ii) x is part of y at t ; (iii) x intertwining in everything that is part of y in t . Second, let endurantism be the view that for every object x and for every time t at which x exists, there is a PTI of x at t . Finally, let perdurantism be the negation of endurantism. The literature on the topic of endurantism and perdurantism consists of a wide variety of arguments and counterarguments in favor of each view. The typical form of a pro-perdurantism answer argument is to present some apparent challenge to which perdurantism, it is argued, has a direct, while endurantism has more problems in responding. Endurantists then typically respond to such arguments either by reducing the problem (by showing that there is no problem in the first place), or by arguing that they also provide a satisfactory answer to the problem. *Mutatis mutandis* for pro-perdurantist arguments.

Some authors comment that much of the debate between endurantism and perdurantism is misinterpreted. It is widely recognized that those who accept perdurantism typically also accept a niche of other claims that strictly speaking do not follow perdurantist doctrine. One example is the doctrine of universal fusion. The other claim is that in every collection S of space-time points that are occupied by matter, there is an object that occupies all points of S and no other points (call it an urgency for liberalism). Similarly, endurantism typically endorses claims that do not strictly follow endurantism. For example, the denial of universal fusion and the denial of liberalism. Unfortunately, when it comes to the debate between endurantism and perdurantism, little care has been taken to distinguish between the role of the doctrines in question in the arguments, and the role played by these additional claims that usually accompany the two doctrines.

One possible position for the debate is to assert that most (perhaps even all) of the central arguments of the endurantist/perdurantist debate crucially rest on these orthogonal claims and so the arguments do not directly target the doctrines they are used to support. And some authors try to prove they are right. Consider a typical pro-perdurantist argument. As some authors note, this argument consists of a challenge or problem that endurantists have difficulty formulating, and to which perdurantism has a direct answer. There is a version of endurantism that mimics the perdurantist response. That is to say, endurantism can offer the same or at least a highly analogous answer to what perdurantism offers. *Mutatis mutandis* for the pro-endurantist arguments. To be clear, the position is not merely that endurantism or perdurantism has some satisfactory way of responding to the arguments. Putting the position better is that endurantists/perdurantists can provide essentially the same answer as the opposing view. This shows that the original argument cannot be plausibly interpreted concerning the doctrine of endurantism/perdurantism *per se*.

According to other authors, it can be said that the debate has been in vain. But it certainly isn't. For a start, to the extent that the arguments in the debate are successful, they serve to support some of these orthogonal claims. Nor are the arguments in the debate irrelevant to defending either endurantism or perdurantism *per se*. They may still play a role in that debate, albeit a much more indirect role than they are considered to play.

The debate on endurantism/perdurantism has received more criticism. It is usual to say that something persists and only if it is located more than one time. This neutral term gives us a way to frame the question. How does something persist? One answer is to say that the persistence of the thing involves its endurance. What makes something last? It has generally been held that endurance evolves by persisting by having temporal as well as spatial parts. And what is it for something last? It is often put in terms of a thing being fully present every time it exists. Again, sometimes the endurance/perduration distinction is put in terms of differences between strict identity and a looser unity sometimes called genidentity. On this understanding, a thing persists or hardens if and only if for whatever time the thing is located, there exists something identical to that thing. A thing persists or hardens if and only if for which time pairs in which it is located it has different temporal parts in those times in which it maintains the relationship of genidentity between them. The distinction between perdurantism and endurantism also seems to be problematic. Hopefully, the above description gives the reader some sort of sense of what the endurantism/perdurantism distinction might look like. Unfortunately, none of the above suggestions seems adequate to capture the distinction between endurantism and perdurantism. For example, the idea of the endurance of a thing being captured in terms of being fully present at all times in which it is located has been shown by some authors in the literature to be problematic. It is commonly said that an endurantist partition is an irreducibly temporally relative matter. Contrast the situation of induration with that of perduration. We can establish without temporal indexation what parts a lasting thing has. What parts a lasting thing has, this one has them *simpliciter*. These parts have the subsequent property of being located at various times. On the

other hand, we cannot establish what parts an enduring thing has without mentioning the relative times to which this thing has those parts.

Thus, the distinction between endurantism and perdurantism appears to be problematic in some cases, according to some objections in the literature. MacKinnon (2002: 291) for example questions the core of the distinction between induration and perduration through consideration of the notion of temporal part. He then introduces the notion of the temporal part:

What is a temporal part? Those who believe in temporal parts take them to be among the parts of persistent things. As such, they are located at instants and over intervals of time. Let's start by focusing on the instantaneous temporal parts. Plausibly, x is an instantaneous temporal part located at t of y if and only if (i) x is part of y ; (ii) x is located only at t and, (iii) x entangles every spatial part of y that is located at t .

Alluding only to temporal parts without reference to parts, the definition given above reduces to: (PT) x is an instantaneous temporal part at t of y if and only if (i) x is a part of y , (ii) x is located only in the (iii) x entanglement every part of y that is located in t . Based on the definitions presented, it is possible to offer a distinction between induration and perduration by stating that (E) x indurates if and only if, (b) x has no temporal parts, and (c) for any time in which x is located, there exists a set whose members make up x at that time. Two other complementary definitions would be: (P) it has temporal parts that last; (EP) x endura/perduras if and only if it has at least one enduring temporal part.

Thus, at the heart of the distinction between induration and perduration, the notion of the temporal part seems to be presupposed. The perdurantist endurantist debate appears to involve three main issues: (1) Debates over moderatism and perdurantism (or three- and four-dimensional) typically deal simultaneously with several issues concerning persistent objects. Three interconnected issues at the center of current debates are: (DIM) Whether objects are three-dimensional or four-dimensional; (TP) Whether or not the object has its temporal parts. (PART) Whether objects last only in partition relations relative to time. Perdurantists tend to claim that persistent objects are four-dimensional, that every persistent object has a temporal part for each moment through which it persists, and that objects harden in timeless partition relations. Endurantists tend to claim that all objects are three (or less) dimensional and lose temporal parts of their own.

There is a division in the debate regarding endurantism. The standard endurantist position on PART depends, to some extent, on whether the endurantist is an eternalist (believing that all times, and objects present at those times, are equally real) or a presentist, believing that only current time and current present objects are real. In addition to this division, it is still possible to characterize the relevance of the debate on endurantism and perdurantism with an example. Let's say that an object persists through time if and only if it exists at multiple times. Today, many philosophers agree that objects persist through time. Still, they disagree about how they do it that way. The core of their disagreement is whether or not such objects have temporal parts. So-called perdurantists think they have, so-called endurantists think they don't. The conflict between endurantists and perdurantists is made up of several well-known arguments against endurantism. Perdurantists think that temporal parts are necessary to explain phenomena such as change, mereological coincidence, and vagueness. For their part, endurantists insist that they can explain such phenomena just as well without temporal parts. And so they think that any idea that objects have temporal parts is unmotivated, if not *per se* implausible.

Another characteristic of the debate between endurantism and perdurantism can be highlighted. Yet another challenge for the endurantist concerns the main definition of his vision. Perdurantism may be based on a *prima facie implausible principle*, yet it has a clear and positive feature: according to it, persistent objects have temporal parts. On the other hand, endurantism is often characterized in purely negative terms, such as the thesis that objects have no temporal

parts. Endurantism is sometimes defined in positive terms, with the thesis that objects are fully present at various times. Still, this definition remains on the notion of being fully present, which many consider unclear. What does it mean that x is fully present at time t ? This does not mean that every part x has at any time is part of x at t , otherwise, it would be impossible for x to change its parts over time. Nor does it mean that every part that x has at t is a part of x at t because that is a trivial legacy that the perdurantist would like to maintain as well. Perhaps this just means that x has no temporal parts in t . But in this case, being fully present several times would only mean persisting without having temporal parts, in such a way that endurantism would become defined in purely negative terms.

We thus see that there are several aspects of the relevance of the debate between endurantists and perdurantists. In the final considerations of this work, we will define the axioms of mereological hylomorphism and take a position on the related question of the relevance of the aforementioned debate.

6. Final considerations

With the elements of the discussion presented in this article, we can now make some final considerations that define mereological hylomorphism. Mereological hylomorphism is the doctrine according to which the persistence and identity of physical objects can be considered relative to the formal and material parts that make up the objects. We have to consider that the persistence of objects throughout their changes of part in time can be explained based on the notion of the formal essence of the substance, while the change of temporal parts occurs based on the accidental properties of the substance. Now, mereological hylomorphism was proposed by Aristotle who in *Metaphysics*, book Z, 1035b, defined that: “A part, then, can be part of the form – by form I understand the essence – or of the concrete whole composed of form and matter, or of matter itself...”

To define mereological hylomorphism in the sense of Aristotle mentioned above, we can start nowadays with axioms of temporal mereology that define the temporal accidents of substance in the sense of Aristotle. We can then reconsider the following axioms of temporal mereology, namely:

$$a \text{ }_{tn} \text{ } b =_{\text{def}} (a <_{tn} b) \wedge (b <_{tn} a)$$

$$a \circ \text{ }_{tn} \text{ } b =_{\text{def}} \exists x ((x <_{tn} a) \wedge (x <_{tn} b))$$

These are the definitions of proper part and superposition that change over time, that is, they are mereologically variable, which explains the accidents of the substance in the traditional Aristotelian sense. It is also necessary to reconsider the temporal existence of material or accidental properties of the substance. There is a time-independent existence $E! a$ which means “there is exactly one a ” and an existence quantifier modally considered in time, that is, $\text{Ex}_t a$ existed at moments a . Theseus' ship, for example, has its temporal parts of the matter from which it is built and these parts change over time, which requires the following axioms of temporal mereology, namely:

$$\text{And the } \leftrightarrow \text{ }_{tn} \text{ } (\text{Ex}_t a)$$

$$\text{Ex}_t a \rightarrow a <_t a$$

$$a <_t b \rightarrow \text{Ex}_t a \wedge \text{Ex}_t b$$

$$a <_t b \wedge a <_t c \rightarrow a <_t c$$

Such would be the axioms describing the parts of matter from which physical objects are constructed and would be mereologically variable in time, thus completing temporal

mereology. Simons, for example, defines some theorems that can be used in a mereology of temporal parts.

We can cite two theorems as examples according to the presentation by Simons (1986: 180) namely:

$$E!a \ a < a$$

$$E!a \ a \circ a$$

This means that there is only one a is equivalent to affirming that a is part of itself and also that there is only one a is equivalent to affirming that it intertwines it with itself.

Along with the tensioned or modalized notion of time in the mereology of the temporal matter of the substance, we must also consider the question of its essence and here we must consider mereological essentialism. There would then be a principle of mereological essentialism according to which, being formalized, it states that for all x , if x has y as one of its parts, then y is part of x in every possible world in which x exists. y is then an essential part of x . This principle, in its strong version that characterizes the Aristotelian position, can be formalized according to Simons [1986: 272) as follows:

$${}_t y \rightarrow (x \ {}_t y')$$

The necessity operator described above describes the necessity of the relevance of the essential part of any physical object.

Once the axioms for mereological hylomorphism and the corresponding notions of mereologically variable material accidental part and mereological essentialism with the notion of essential part or mereologically constant form have been defined, we can now return to the related question of temporary intrinsics posed by several authors, including Lewis[2001] detachments that we considered in section 3. The position pertinent to the doctrine of mereological hylomorphism is that there are no temporary intrinsic properties since the formal part is related to all possible worlds of relevance and therefore the intrinsic properties are of the order of the essence of physical objects and thus cannot be temporary. Only the material properties of objects are mereologically temporary, but in this case, they are extrinsic properties of the objects. It is important to add that only all substantials are capable of being considered for mereological essentialism. The essential parts are mereologically continuants or simply continuants of intentional mereology, while the material parts of objects are mereologically the occurrences of intentional mereology.

As for section 4 on the relevance of the debate as a related issue, we can state that the doctrine of hylomorphism presented is an intermediate position between endurantism and perdurantism since the essential parts of objects are endurants and the material parts of objects are in turn, lasting and variable as temporal parts of objects. Therefore, the doctrine of mereological hylomorphism is a contemporary relevant position for the debate on the persistence and identity of objects.

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Is There Hope? Emancipation Philosophy through Plurality and Cosmology

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Abstract

In *Inhuman* by Jean-François Lyotard, it is stated that after the Sun's death, there will be no one left to acknowledge it. While this scientific reality may seem nihilistic, there is room for hope. In this article, I argue that plurality and cosmological thinking enable emancipatory philosophy. I reference philosophers Jean-François Lyotard, Michel Foucault, and Gianni Vattimo to illustrate the diversity of human experience, challenging the notion of universal human history. Furthermore, I examine how the Earth and the cosmos reflect each other through Foucault's *The Order of Things* and analyze the Norse concept of Ragnarök in relation to the demise of the Milky Way. By recognizing interconnectedness amid the impending solar catastrophe, a gentler human consciousness could emerge, as the material from the solar explosion could spark the formation of a new galaxy, potentially fostering life once more. The blast may signal a new beginning rather than an end.

Keywords: plurality, cosmology, emancipation, Norse, Foucault

In *Inhuman* by Jean-François Lyotard, he writes, "...after the Sun's death there won't be a thought to know that its death took place... In 4.5 billion years there will arrive the demise of your phenomenology and your utopian politics, and there'll be no one there to toll the death knell or hear it. It will be too late to understand that your passionate, endless questioning always depended on a 'life of the mind' that will have been nothing else than a covert form of earthly life" (Lyotard, 1991: 9). With the looming catastrophic doom for humans, it is expected to question if our existence has any meaning and what it means to be human since everything perceived thing on Earth and throughout the Milky Way Galaxy will be annihilated during the solar explosion.

While this scientific fact seems nihilistic, what if there is hope throughout this transaction? In this paper, I argue that plurality and cosmological thinking allow emancipation philosophy to flourish. To support this hypothesis, I will use philosophers Jean-François Lyotard, Michel Foucault, and Gianni Vattimo to champion the plurality of human experience by dismantling the fable of a universal human history. Second, I will discuss how the Earth and the cosmos mirror one another by focusing on Foucault's book, *The Order of Things: An Archaeology of Human Sciences*. Finally, I will analyze how the Norse Ragnarök relates to the demise of the Milky Way Galaxy. By celebrating how humans are interconnected throughout the cosmos through the solar demise, perhaps people are capable of elevating to a conscious awareness that calls for a gentler humankind that can find emancipation through existence because, ultimately, the matter

dispersed by the solar explosion will be used to form another galaxy, potentially one with humans. If so, the solar blast is not an end but only a new beginning.

How do humans grapple with the thought of our solar demise? Infrequent before the contemporary consciousness, there was a general lack of awareness of myth (Vattimo, 2007: 28). Grand narratives and universal principles, dogmas, or religions worked toward lumping humans into one story due to language. According to Foucault, “language gives the perpetual disruption of time” (p. 124). When these disruptions form patterns, the words turn themselves into distinct spaces of representation or periods, which is then coined as history by humans (Foucault, 2005: 123). Since the Enlightenment, “human history is seen as an ongoing process of emancipation as if it were the perfection of the human ideal” (Vattimo, 2007: 2). However, this apparent linear history of “uninterrupted of truth and reason” (Foucault, 2005: IX) is only a fable. As noted by Lyotard, history is not only unilinear but there is no history in which one can speak of progress (Lyotard, 1991: 2). Reflected through language, history is generally organized around the year zero with the birth of Christ, and this initiates “a serial train of events in the life of peoples from the ‘center’ of the West” (ibid.) in which everything outside the grand narrative is “primitive” and uncivilized awaiting the day for the West to save the others from savagery (ibid.). Furthermore, Vattimo agrees with Lyotard by noting that perpetuating a universal history with linear narratives was used to mute, repress, and exclude voices to maintain power and control through the guise of emancipation (Vattimo, 2007: 67-68).

When commenting on grand narratives and unilinear time, Lyotard specifically attacks “human narcissism” (p. 45). According to him, the most famous human narcissism that must be debunked are “man is not the centre of the cosmos (Copernicus), is not the first living creature (Darwin), is not the master of meaning (Freud)” (ibid.). Even Foucault states that humans are not “[a] mysterious instrument with powers known only to a few privileged persons” (Foucault, 2005: 41) nor are they above nature, as Lyotard states, “A human being isn’t different from nature” (Lyotard, 1991: 12). By removing the self-important stance and hierarchical superiority humans have placed on themselves through ideas, languages, values, and other forms of communication, Lyotard calls for the abandonment of a singularized emancipation philosophy (Lyotard, 1991: 62). Dismantling the “classical” modern metaphysics of singular narratives, especially on emancipation, allows “its users to stock more information, to improve their competence and optimize their performances,” or a plurality of human experiences to enter the forefront of historical consciousness.

In *The Transparent Society*, Gianni Vattimo argues, “the dissolution of the idea of history and the end of modernity is the advent of the society of communication” (p. 4). He illustrates that every human experiences a plurality of lived experiences, and due to the modern era, there is a conscious awareness of this multiplicity of experience (Vattimo, 2007: 70). Amplified by mass media, the continuous exposure to information further dissolves any claim of a universal history, and raising awareness of plurality causes a fundamental shift from previous philosophical thought. For example, Immanuel Kant championed “the expectation that the consensus of each and every human being worthy of the name would coalesce around the values of bourgeois ‘beauty’” (ibid.). The dangers of continuing any Kantian thought, of the sublime or the historico-political writings, “is to shelter the humanist prejudice under his authority” (Lyotard, 1991: 1). Despite Kant’s critique of art and how good his intentions, politicians, philosophers, teachers, and other impactful professions on societies since the invention of writing, however more profound during the Enlightenment, have excelled at weaponizing words to administer control and power structures that dehumanize other people who do not submit to the perceived universal ideas created by great thinkers like Kant.

Through the dissolution of universal histories and breaking down linear time, humans can then reevaluate emancipation philosophies through a more complex and even chaotic paradigm that removes humans, and even the Earth, from the center of the conversation (Vattimo,

2007: 4). With the evolution of modernity and techno-science, advancing technologies and more collective access to information have allowed most humans the opportunity to explore ideas outside the confines of their environment. As reflected by Lyotard, “micro-physics and cosmology inspire... today’s philosopher” (p. 45). With access to a newer plurality of “tales,” as noted by Vattimo, humans are capable of freeing themselves from “the inflexibility of monological tales and the dogmatic systems of myth” (Vattimo, 2007: 26). This self-transparency enabled by modernity and human sciences will be explored through cosmology.

In the chapter “Prose of the Word” in Foucault’s *The Order of Things*, he discusses how the universe is folded upon itself, and representation is posited as a form of repetition in which life mirrors nature (p. 17). He furthers this analogy of resemblance between the Earth and the universe by stating:

The stars are the matrix of all the plants and every star in the sky is only the spiritual prefiguration of a plant, such that it represents that plant, and just as each herb or plant is a terrestrial star looking up at the sky, so also each star is a celestial plant in spiritual form, which differs from the terrestrial plants in matter alone . . . , the celestial plants and herbs are turned towards the Earth and look directly down upon the plants they have procreated, imbuing them with some particular virtue (Foucault, 2005: 22-23).

As a category of thought, the interplay of duplicated resemblances to all the realms of nature assures that everything will find its mirror and its macrocosmic justification on another larger scale, like how the plants are reflected in the universe. This affirmation asserts that the cosmic order, even in the highest spheres, will be found reflected in the darkest depths of the Earth (Foucault, 2005: 34-35).

Given the idea that the universe is folded upon itself and all creation mirrors itself, Foucault indicates that greater worlds than Earth must exist because everything is a resemblance; however, he cautions that despite the immense distance from the microcosm to macrocosm, it cannot be infinite (ibid.). He continues, “Consequently, the similitudes that, through the action of the signs they require, always rest one upon another, can cease their endless flight. They have a perfectly closed domain to support and buttress them. Nature, like the interplay of signs and resemblances, is closed in upon itself in conformity with the duplicated form of the cosmos” (p. 35). This cyclical motion of the universe continually folding upon itself to create a multiplicity of worlds throughout the cosmos means “matter [is] taken as an arrangement of energy created, destroyed and recreated over and over again” (Vattimo, 2007: 7). Since the Earth is an arrangement of matter and energy, the cosmic arrangement is transitory and only lasts a few billion years, which is “not a long time considered on a cosmic scale” (Vattimo, 2007: 9). With the dissolution of grand narratives regarding human existence and the broader acceptance of the plurality of experience, especially on a cosmic scale, when confronted with realities like Lyotard’s statement, “After the sun’s death, there won’t be a thought to know that its death took place” (p. 9), there is hope for the continuation of human thought that contradicts Lyotard’s strong claim and some of Vattimo’s call that techno-science and the current view of modernity embrace emancipation philosophy.

When reflecting on how humans can think in a plurality of existence and cosmologically, a group of people predating the modern age successfully, at least in archaeological and written records, lived this methodology. From approximately 793 to 1066 CE, there lived a Nordic culture of craftspeople, farmers, warriors, and explorers who traveled across Europe, Africa, Asia, and North America (Vikings, 2024: 6). While this culture is referred to as “the Vikings,” this categorization is a misnomer and false representation of an entire group of people who emerged during the Stone Age (ibid.). Nonetheless, these Nordic people reached a level of conscious awareness through their version of modernity, as their language experienced

disruptions (Foucault, 2005: 124) that balanced a multiplicity of lived experiences in a cosmological order.

With giants, trolls, elves, Vanirgods, and more, to be a Norse person in the historical context of its former existence meant believing in a plurality of experiences in which nine worlds existed in the cosmos. Within the cosmic order, Midgard, or the Earth, is sometimes poorly translated as “Middle Earth,” giving the perception that the Nordic people believed to be central in the cosmos. This is false as Midgard means “inhabited” in Norse cosmology and is only above *Muspel* (World of Fire), *Hel & Nifl Heim* (Underworld), and *Darkalf Heim* (World of the Gnomes) (D'Aulaire & D'Aulaire, 1967, *Introduction*). Without techno-science, the Norse people were capable of conceiving and accepting a “modern mythology” that had multiple dimensions, and there was a narrative of how humans came into existence without a grand narrative. Instead, humans were simply a byproduct of previous cosmic events (D'Aulaire & D'Aulaire, 1967: 26), similar to how humans are viewed in a modern techno-science world in which humans are the byproduct of the Big Bang and are comprised of elements, such as “stars, particles, cells, the individuals of a living species” (Lyotard, 1991: 48).

Within the plurality of experiences and Nordic cosmological order, interestingly, there was a built-in narrative within their ethnocultural world that “there will arrive the demise of... earthly life” (Lyotard, 1991: 9), including the eight other worlds. First recorded in the tenth-century *Codex Regius*, and then in the early fourteenth-century *Hauksbok*, the Norse story of the Ragnarök, otherwise known as the day of reckoning (D'Aulaire & D'Aulaire, 1967: 140), is the demise of all the gods and worlds alike (Sturluson, 2014: 3). In the section, *Voluspa* (Seeress's Prophecy), Odin, the god and ruler of the Norse cosmos, visits a seeress who can remember before the beginning of the gods and can see as far ahead as after Ragnarök (ibid.). She tells him all he knows will cease and that there will be nothing left of him or his people's existence. Unlike the Bible, in which the *Apocalypse* appears towards the end of the codex, the *Voluspa* is the first poem of the *Codex Regius*. Like in Lyotard's *Inhuman*, the reader is quickly confronted with the reality that their existence will end on a cosmic scale. Before Ragnarök, the different living beings and worlds collided with one another through a series of stories recorded in the *Codex Regius*. These stories were presented as a unilinear history of the Norse, with no linear perspective or a singular grand narrative. The poems are just a series of Nordic cosmic events (Sturluson, 2014). Nonetheless, the only linear recording arises during the Ragnarök.

When Ragnarök occurs, the Earth is “split open, all the way to the world of the dead, and all the bonds of the world broke with a twang...No longer was anyone bound by anything” (D'Aulaire & D'Aulaire, 1967: 143). The sky also split, and through the cracks burst fire. Everything is set ablaze (D'Aulaire & D'Aulaire, 1967: 146), and the Sun and moon are swallowed (D'Aulaire & D'Aulaire, 1967: 150). The cosmos is plunged into darkness, and “Yggdrasil, the world tree, broke and fell” (ibid.). As the fiery explosion continues, “The sea rose above the mountains and fell crashing over the land. The air trembled, the stars were ripped from the sky as burning Earth disappeared under the waves, and the sacred halls of Asgard toppled and fell” (ibid.). Whether prophecy or modern science, the Norse, like the Milky Way Galaxy, and all worlds in the cosmos will meet the same fate.

One of the most influential visuals of Ragnarök is the eleventh-century northern portal of the Urnes Stave Church (Figure 1). Located in Norway, the carvings on the north exterior wall depict vines, dragons, snakes, and other beasts. The snake is interpreted as Níðhöggr, who is shown eating the roots of Yggdrasil, or the world tree, and in another scene, fighting a dragon. The battle of the beasts represents the onset of Ragnarök and signifies the ending of the world. The engagement of the carvings is imperative to the Nordic as it highlights how every living creature, human, animal, plant, etc., is connected, and when the world meets its fiery end, all will be swallowed up. However, the byproduct of this cosmic tragedy is the creation of new life that will perpetuate the cycle of a pluralistic cosmic experience. While there is no escape, if one is willing

to parcel through the written texts of Ragnarök or a modern astronomy book, it is possible to find life-affirming positivity during this transaction of cosmic demise.



Figure 1. Urnes, Norway, Portal, set into wall of later stave church, 11th century. Image Source: Artsy

Before the Sun was swallowed, it is recorded in the *Codex Regius* that the Sun rapidly gave birth to a daughter. The daughter grew as big and bright as her mother Sun and rose to shine in the sky. A new moon and stars eventually appeared, which then led to the creation of another Earth-like planet. Plants, animals, and eventually a maiden and a youth stepped out onto this newly forged Earth. Without a grand narrative, these descendants would be the new humans who will play their part in the cosmic order (D'Aulaire & D'Aulaire, 1967: 152). Whether it took “4.5 billion years” or not, the Nordic cosmos was destroyed; however, the matter ejected from this transaction was taken and recreated, which will happen “over and over again” (Vattimo, 2007: 7). Once recreated, it will be a universe that is folded upon itself and be one of the greater worlds where life mirrors itself, as expressed by Foucault (pp. 34-35).

Regardless if it is called the Nordic cosmos or the Milky Way Galaxy, when the Sun explodes, all the matter involved in the burst will be repurposed to form new stars, suns, people, and life, and through this modern myth is the philosophy of emancipation. According to Vattimo, accepting one’s own nihilistic destiny while discarding metaphysical principles is the final epoch of metaphysics that can be achieved in which one is subjected to their provenance instead of an *arche* (pp. 118-119). By looking at one’s own cosmology and plurality of lived experiences, “the subject, on its part, is less and less a center of self-consciousness and decision-making, reduced as it is to being the author of statistically predicted choices, playing a multiplicity of social roles that are irreducible to a unity” (Vattimo, 2007: 117). With no definable unity, the person is emancipated through the hermeneutics of their interpretation because the only fact is that the Sun will explode. Anything else is only a rendition.

In conclusion, while it seems startling to conceptualize that the Milky Way Galaxy will someday cease to exist, it is equally reassuring to comprehend that this cosmic disaster is part of life in the universe. There are no grand narratives or universal histories where humans are above nature. Instead, humans belong alongside nature, and when the time comes, the matter ejected from a deceased person will be reworked to form something new. Therefore, instead of trying to fit into systems of control and prejudice, plurality and cosmological thinking allow one to lift the veil of oppression to experience emancipation. In doing so, humans are then able to celebrate our current existence and enjoy simply being alive through our multiplicity of experiences here on Earth.

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Image source

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