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The force of dissimilar analogies in bioethics

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The force of dissimilar analogies in bioethics

1. Introduction

Analogical reasoning is a popular tool in ethical discussions, both to reach a better conceptualization of new situations and to obtain guidance about the right way to deal with new developments [1]. Analogies can enter the scene either before or after a moral opinion is formed. Someone may have no immediate (intuitive) moral opinion on a certain matter and seek guidance through analogous situations that are less bewildering. Alternatively, one may have an intuitive moral opinion about a situation and look for analogies that confirm this opinion, either to reinforce one's own opinion or to persuade others to adopt a similar stance. Given their prominent position in bioethical debates and their persuasive power as rhetorical tools, it is important to gain insight into how they function. Although many authors have written about analogical reasoning, few attempt to grasp the particularities of analogical reasoning in ethical debates, which has led to a general misinterpretation or disregard for the force of dissimilarities in analogical reasoning [2-5].¹ We aim to provide a better framework to evaluate analogies in ethical reasoning. This framework will be illustrated with analogies that are used in the debate on payment for oocyte providers for stem cell research. Comparisons have been made with oocyte donation for infertility treatment [7, 8], sperm donation [9, 10], live kidney donation [11-13], research subjects [14, 15], employment [14, 16], blood donation [17, p. 20], bone marrow donation [13, p. 629], jury duty [18] and even trafficking for prostitution [19]. We limit ourselves to the first five analogies as they are most prominent (see textbox).

2. Moral reasoning by analogy: balancing casuistry and reliance on bioethical principles

The use of analogies in moral reasoning is mostly framed within casuistry, as a method of handling ethical issues on a case by case basis - as opposed to both inductive and deductive reasoning – without referring to established bioethical principles or moral theories. However, analogical reasoning can also be regarded as a method that is complementary to reliance on

¹ Note that although C. Shelley has developed the notion of 'disanalogies', they are not based on dissimilarities [6].

ethical theories or principles instead of being an alternative to them [20, 21, 22, 23]. We agree with Arras that “the casuists’ account of case analysis fails to supply us with principles of relevance that explain what binds the cases together and how the meaning of one case points beyond itself toward the resolution of subsequent cases.” [23, p. 40] At the same time, moral reasoning based exclusively on moral theories and principles oftentimes does not offer a satisfactory answer to specific moral dilemmas. In issues such as paid oocyte donation for research purposes, multiple commonly accepted principles can be invoked, but they will not all lead to the same conclusion. Actually, one and the same principle can often be used to reach a conclusion both for and against payment. Suppose someone relies on the four central bioethical principles that were set forward by Beauchamp and Childress: respect for autonomy, beneficence, non-maleficence and justice [24]. If he is arguing for payment, he might say that accepting payment is consistent with respecting the donor’s autonomous decision to sell her oocytes/time/effort (respect for autonomy), that an increased number of donors (due to offering payment) will enable valuable research into debilitating diseases (beneficence), and that the donor will be fairly compensated for her donation (justice). If the same person is arguing against payment, he might say that rejecting payment promotes informed consent free of outside pressure (respect for autonomy), will make fewer women go through the burdensome donation procedure (non-maleficence) and will promote distributive justice as the donors will not consist primarily of economically underprivileged women (justice). As a simple referral to these principles does not settle the debate, we need an alternative approach that allows the particular circumstances of a case to be evaluated in order to make the underlying abstract principles and theories more tangible and to determine which principle takes precedence over the others in a particular case. Reasoning by analogy is a way of doing just that. As previously discussed by Sunstein, analogical reasoning can be considered as a relatively easy method to work back and forth between particular cases and both low-level and high-level principles in order to obtain (a limited version of) reflective equilibrium [21]. This also implies that analogical reasoning has no specific ‘theoretical allegiances’: “The ultimate view of the case and its appropriate resolution comes, not from a single principle, nor from a dominant theory, but from the converging impression made by all of the relevant facts and arguments that appear in each of those spaces” [22, p. 245].

3. The force of similarities versus the force of dissimilarities

When two particular cases are compared, there are always both similarities and dissimilarities. The easiest way to defend any normative judgment from such a comparison arises when similarities abound and dissimilarities are few. It is therefore unsurprising that most of the current literature on analogical reasoning in ethics deals with such analogies. Hunter defines an analogy as “a non-identical or non-literal similarity comparison between two things, which has a predictive or explanatory effect” [25, p. 1206]. Thagard and Holyoak evaluate analogies by analyzing their structural consistency and semantic similarity, whereby the strongest analogies are those with the highest degree of consistency and similarity between source and target [4]. Based on the structure of analogies in ethical reasoning as specified by Gillam [26], analogies with payment for oocyte donation for research purposes should – ideally – have the following format:

- 1: Payment is morally (un)acceptable in situation A.
- 2: Oocyte donation for research purposes is the same as situation A in all morally relevant respects.
- 3: Payment for oocyte donation for research purposes is morally (un)acceptable.

The first premise embodies the requirement that the issue one is trying to solve in the target situation of the analogy is already solved in the source situation. Pointing out the similarities between two situations that are equally undecided might be interesting from an epistemic point of view, but not from a normative one. In the terminology of Thagard and Holyoak’s multiconstraint theory, such an analogy would have a very low pragmatic effectiveness. The second premise is a trickier one, as an answer to the question which particular elements of the source and target situations are morally relevant (or not) is in itself part of the debate. Individual opinions will differ depending on the importance that one ascribes to the different maxims that these elements refer to (see below, under 4.3). The ‘perfect classic analogy’ contains elements that pertain to all moral principles that different moral actors consider important and all these elements are similar in source and target.

In practice, analogies are seldom as clear-cut as this abstract structure suggests. There are always dissimilarities between source and target, and rather than being a disturbing factor in the analogy, we argue that they are often the reason why a particular analogy is chosen. For example, analogy 1 (see text box) explicitly points to the fact that oocyte donation for reproductive purposes is “a far more emotional endeavour” than oocyte donation for research purposes. The reason for pointing this out is not to conclude that the analogy is invalid or that

the practice of compensating donors in the former situation cannot be transferred to the latter situation. On the contrary, it suggests that if financial compensations should be forbidden or discouraged, it should be when oocytes are donated for reproductive purposes rather than when they are donated for research purposes. A similar reasoning is found in analogy 9, which argues that if payments do not vitiate research participants' consent to unknown risks, *surely* it does not threaten oocyte providers' consent to known risks. In other words, if financial compensation should be forbidden in either case, it should be in the former (where it is not) and not in the latter. These analogies are not brought forward *in spite of* dissimilarities, but *because of* the dissimilarities. This particular use of analogies has been unidentified in the ethics literature on analogical reasoning, let alone systematically presented. This may be due to the fact that most theories regarding analogical reasoning have their roots in legal reasoning, in which the rule of precedent (and thus similarity between different situations) is of utmost importance. We aim to fill this gap by suggesting a new framework for the evaluation of analogical reasoning in ethics, which recognizes the value and rhetorical purpose of the dissimilarities between source and target.

4. A proposed framework for analogical reasoning in ethics

4.1. Three categories

At least three different categories of analogies should be discerned in ethical reasoning:

- 1) **Similar analogy:** the analogy focuses on the similarities between source and target, aiming at a corresponding moral judgment in the source and target situation. This is the standard and most straightforward kind of analogy. Dissimilarities between source and target may be present, but they are not morally relevant.
- 2) **Dissimilar undermining analogy:** the analogy focuses on the dissimilarity between source and target, rejecting a similar moral judgment. We label these dissimilarities 'undermining' as they undermine the transfer of a moral judgment from source to target. However, they are in themselves incapable of indicating which alternative moral judgment *should* be made in the target situation. These kinds of analogies are thus different from the other two in the sense that they are destructive rather than constructive. They merely indicate that the target is less morally acceptable (/unacceptable) than the acceptable (/unacceptable)

source, but whether the target is morally *unacceptable* (/acceptable) remains undetermined. When two situations are similar in all morally relevant aspects, consistency requires that a similar moral judgment is made. However, the opposite is not true. When two situations are dissimilar, consistency does not require that a different moral judgment is made. For example, it makes no sense to say that because murder and fraud are dissimilar and murder is morally unacceptable, fraud must therefore be morally acceptable. Fraud is morally unacceptable, not because it resembles murder, but rather because it resembles theft, deception or lying. However, although dissimilar undermining analogies do not lead to a clear moral judgment, they are not useless as they have a strong rhetorical power to invalidate a classic analogy made by an opponent in an ethical discussion.

3) **Dissimilar reinforcing analogy:** the analogy focuses on the dissimilarity between source and target but nevertheless aims at a similar moral judgment in source and target, as the dissimilarity indicates that the moral judgment made in the source situation is *even more* appropriate in the target situation. We consider these dissimilarities to be reinforcing as they make the transfer of a moral judgment from source to target even more plausible than in the case of similarity. It is this category of analogies that is of special interest to us as we believe it has been widely overlooked. One often takes for granted that similarities render an analogy stronger and dissimilarities render them weaker, which is indeed the case from an epistemic point of view. From a normative point of view, however, this second type of dissimilar analogies actually has the opposite effect and supports a certain stance more strongly than a classic analogy.

A further division can be made depending on the moral judgment of the source situation, which can be either morally acceptable or morally unacceptable. A simple way to frame the three kinds of analogies is then that in similar analogies the target situation is *equally* morally acceptable / unacceptable as the source situation; in dissimilar undermining analogies the target situation is *less* morally acceptable / unacceptable than the source situation and in dissimilar reinforcing analogies the target situation is *more* morally acceptable / unacceptable than the source situation.

Schematically, we can visualize the different types of analogical reasoning as follows:

	Very acceptable	Morally acceptable	Undecided		Morally unacceptable	Very unacceptable
			Less morally acceptable	Less morally unacceptable		

Similar analogy		source 1 ↓ target 1			source 2 ↓ target 2	
Dissimilar undermining analogy		source 1 → target 1		target 2 ← source 2		
Dissimilar reinforcing analogy	target 1 ← source 1				source 2 → target 2	

As illustrated in this scheme, the most effective analogies are the dissimilar reinforcing analogies, as they clearly pull the target situation to either pole of the continuum between morally acceptable and morally unacceptable situations, thus defending a stronger conclusion. The least effective ones are dissimilar undermining analogies, as they pull the target situation to the middle, leaving it undecided.

4.2. Applying the categories

Applying our three categories to the discussion regarding financial incentives for oocyte donation for research purposes, we can classify the analogies found in the literature as follows (see text box):

- Similar analogies – payment is morally acceptable in both source and target: analogies 3, 8, 10 and 11.
- Similar analogies – payment is morally unacceptable in both source and target: analogy 6.
- Dissimilar undermining analogies – payment is less morally acceptable in the target than in the source (where it is considered acceptable): analogy 2.
- Dissimilar undermining analogies – payment is less morally unacceptable in the target situation than in the source (where it is considered unacceptable): analogy 7.
- Dissimilar reinforcing analogies – payment is even more morally acceptable in the target than in the source (where it is already considered acceptable): analogies 1, 4 and 9.
- Dissimilar reinforcing analogies – payment is even more morally unacceptable in the target than in the source (where it is already considered unacceptable): analogy 5.

It is important to note that analogies sharing the same source and target situation do not necessarily fall within the same category or lead to the same moral judgment. For example, although analogies 5 through 7 all use kidney donation as the source situation and oocyte donation for research purposes as the target situation, analogy 5 is a dissimilar reinforcing analogy, analogy 6 a classic analogy and analogy 7 a dissimilar undermining analogy. Also, analogies 1 and 2 both refer to the payment of oocyte donors for infertility treatment as an accepted practice, but while analogy 1 is aimed at defending payment for research donors, analogy 2 is aimed at rejecting payment. These divergences are illustrations of the fact that oftentimes partial analogies are made that only map a limited number of elements from source to target, depending on which elements one judges morally relevant and that even analogies that incorporate the same elements can lead to a different moral judgment if they are interpreted through the lens of a different maxim or principle.

The selection of morally relevant elements and the selection of moral principles for their interpretation are also the two grounds on which analogies can be rebutted. First, the fact that most analogies are partial rather than exhaustive make it possible to argue that the wrong set of elements is isolated because not all the morally relevant elements are taken into consideration and/or because the included elements are not morally relevant. Second, one can counter an analogy by questioning the interpretation of the selected elements, rather than questioning their moral relevance as such.

4.3. The selection of morally relevant elements

The fact that almost all analogies in ethical debates are partial analogies implies that a selection of relevant elements takes place. It is therefore difficult, if not impossible, to evaluate analogies without referring to the moral principles or theories that justify this selection².

To clarify the way in which individual elements and underlying principles are intertwined, we give an overview of the elements and maxims that are deemed relevant by the different

² The most noteworthy attempt to determine which elements and relations are more likely to be relevant or irrelevant from a “neutral” perspective is that by Gentner, which basically rests on the idea that the more intertwined elements (or object-attributes) and relationships are, the more likely it is that they are also relevant [2].

authors in our example analogies. In the debate regarding paid oocyte donation for research purposes, the main areas of concern are commodification of human (reproductive) body tissue, undue inducement (jeopardizing informed consent) and exploitation [27]. Elements that are of utmost importance for the first argument are the exchange of body tissue and money. Analogies 5 and 6 clearly appeal to the commodification argument, using words such as ‘purchase’, ‘commercialization’ and ‘selling’. The argument of undue inducement relies on the idea that the risks associated with oocyte donation are so high that no rational person would assume them merely to further research. Analogies 1, 2, 6 and 9 use words such as ‘dangerous’, ‘risky’, ‘surgical procedure’, ‘consent’ and ‘risks’, either to support or deny the claim of undue inducement. The final major argument against payment is that payment will lead to exploitation of economically disadvantaged women. Words referring to the argument of exploitation are ‘risks’, ‘economically disadvantaged women’, ‘exploitative’, ‘dangerous’ and ‘exploitation’ in analogies 1, 2 and 10. The main argument *for* payment is the argument from fairness. Analogies referring to this argument will focus on the ‘input’ of the donor as these are the elements that will need to be offset by payment to constitute a fair transaction. Analogies 3, 4, 8 and 11 mention ‘time commitment’, ‘inconvenience’, ‘travel’, ‘risk’, ‘expenses’, ‘loss of earnings’, ‘discomfort’ and ‘physical effort’. A final argument – which is used to argue both for and against payment – is of utilitarian nature, weighing the benefits and disadvantages that would follow if payment would be allowed. This kind of argumentation is found in analogies 2 and 5, which mention both the disadvantages for the donor and the benefits to society (highlighting either their presence or absence): ‘risky egg extraction procedure’, ‘solely for research’, ‘benefits are far less clear and mostly still hypothetical’, ‘at least here you have someone with a terminal illness’.³ All of these elements are thus possibly morally relevant, although not everyone may agree on the importance of the mentioned arguments and the maxims or principles they rely on. It has, for example, been convincingly argued that the commodification of body tissue is not per se morally wrong [27, p. 261]. Depending on which moral principles or theories a person adheres to, different elements may thus be considered morally (ir)relevant. As mentioned, few analogies are all encompassing. Seven analogies (analogies 3, 4, 7, 8, 9, 10 and 11) have filtered out elements that refer to only one argument, three analogies (analogies 1, 5 and 6) refer to two arguments and only one (analogy 2) refers to three arguments. If we look at the organ donation analogies more closely,

³ Analogy 7 is not mentioned as it does not refer to any of the five principle arguments for and against payment for oocyte providers. Instead, it refers to the argument of altruism (as opposed to exploitation of a patient) in the debate regarding the payment of organ providers, which is not morally relevant here (as the analogy intends to show).

analogies 5 and 6 primarily contain elements that refer to commodification, starting from the implicit idea that a ban on payment to kidney donors is based on the fact that body tissue should not be treated as a commodity. Analogy 7, on the contrary, refers to the contrast between the clear therapeutic benefit for kidney patients in comparison to the more debatable benefits of stem cell research. The fact that the goal of the donation is filtered out indicates that the speaker does not support the idea that payment for kidney donors is wrong because of the commodification argument (for which the goal is irrelevant), but because we have a moral duty to help people in need rather than profiting from their precarious situation, which is not transferrable to the target situation. In this case, a selection of different elements represents an adherence to different maxims and leads to a different conclusion.

4.4. The dual role of ethical principles in dissimilar analogies

Apart from their role in determining which elements are relevant for a given moral actor, maxims and moral principles have an additional role when dissimilar analogies are concerned. Not the particular morally relevant elements as such, but rather the moral principles by which they are evaluated, determine the ‘direction’ in which a dissimilarity between relevant elements pulls the target of an analogy: either to the poles or to the centre of the continuum between morally acceptable and morally unacceptable situations.

If two people select the same elements as morally relevant while relying on different moral principles and they make a similar analogy, this will not lead to a conflict, and in this sense similar analogies increase the possibility of reaching consensus on a specific case without necessarily agreeing on the underlying moral principles [21, p. 782]. For example, person A is convinced that fairness requires that oocyte providers should receive a compensation that offsets their input, while person B is convinced that respect for the donor’s autonomy requires that payments should be limited in order not to jeopardize informed consent. Both A and B live in Spain, where oocyte donors for IVF treatment are routinely paid €900. Making a similar analogy, I can state that as an oocyte donor for IVF treatment undergoes the same ovarian stimulation and oocyte pick-up procedures as an oocyte provider for stem cell research, they should be equally compensated. This analogy can convince both A and B, albeit for different reasons: person A will agree because if €900 is a fair compensation in the source situation, it is also a fair compensation in the target situation and person B will agree

because if €900 does not jeopardize informed consent in the source, it does not jeopardize informed consent in the target either. However, in dissimilar analogies, these different moral principles will not lead to the same moral verdict. Suppose someone presents A and B with the fact that sperm donors are routinely paid €35, but that sperm donation is a lot less invasive and does not entail any physical discomfort or risks as opposed to oocyte donation. Person A will consider this to be a reinforcing analogy: if sperm donors are entitled to a compensation for a minor effort, surely oocyte providers should be compensated for a much greater effort. Person B, however, will consider this to be an undermining dissimilar analogy: both the amount that a sperm donor receives and the risks involved are so minor, that in this case it is very unlikely that the payment will lead the donor to donate against his better judgment. However, as the risks are greater in the case of oocyte donation, payment would be less morally acceptable.

5. Final remark about the choice of analogies in moral reasoning

A final note needs to be made on the choice of analogies in bioethical debates. Whether a certain analogy is popular or not does not only depend on whether it incorporates the ‘right’ elements or interprets them according to the ‘right’ moral principles. Without claiming to be exhaustive, we name at least two other factors that are at play. First, analogies may be endorsed based on ‘surface level similarities’ between source and target, regardless whether these superficial similarities are morally relevant [25]. In our case example, this factor will for example favor the analogy with oocyte donation for infertility treatment. As the two main elements of the target situation – oocytes and donation – are also present in the source situation, people are more likely to accept this analogy or even the sperm donation analogy than the research subject analogy. However, the superficial observation that reproductive tissue is involved, sparks a myriad of sensitivities that are relevant in the evaluation of payment to donors for IVF (as the tissue will be used for reproductive purposes), but that are largely irrelevant in the context of stem cell research (as the tissue will not be used for reproductive purposes), which is easily ignored.

Second, it is always easier to accept an analogy when it is consistent with acquired beliefs and leads to a desired outcome. In our example of payment to oocyte providers for stem cell research, a particular analogy may be chosen to pursue a goal that goes beyond the issue of

payment, namely to plead for or against human embryonic stem cell research. People who are opposed to such research in general will opt for analogies that plead against payment since support for payment of oocyte providers is indirectly linked to support for research while opposition to payment is a way of hampering it. The opposite is undoubtedly equally true. Researchers who are experiencing difficulties recruiting oocyte donors without offering monetary incentives will be more inclined to present their research as similar to other practices in which payment is allowed than to practices that do not allow payment as it serves their goal of gaining approval to offer money to donors. Especially when different generally accepted moral principles are at play that seem to lead to different conclusions about the issue at hand (as is the case here), one may be tempted to pick out those principles – and those analogies – that are most ‘convenient’.

6. Conclusion

Although analogical reasoning has long been a popular method in bioethics, existing literature does not sufficiently grasp the variety of analogical ethical reasoning. We assert that the main shortcoming is the fact that an analogy’s value is often judged on the extent of similarity between the source situation and the target situation, while in (bio)ethics, analogies are often used *because of* certain dissimilarities, rather than *in spite of* them. We have made a clear distinction between dissimilarities that aim to reinforce a similar approach in the source situation and the target situation and dissimilarities that aim to undermine or denounce a similar approach. The former kind of dissimilarity offers the analogy more normative force than if the dissimilarity would not be present, which is overlooked by authors that regard all relevant dissimilarities as detrimental to the analogy’s strength. Another observation is that an evaluation of the normative force of an analogy cannot be made independently of moral principles or theories. Without these, one can neither select which elements in an analogy are morally relevant nor determine how they should be interpreted.

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Textbox 1:

Five analogies most commonly used in the debate on payment for oocyte donation for stem cell research

Oocyte donation for infertility treatment

1.

[...] in the United States, we already allow women to “donate” their eggs for profit. We allow them to undergo the same procedure and to undertake what is arguably a far more emotional endeavour – passing their genes to a child they will never know. How can we conclude that providing eggs for reproduction is less exploitative or dangerous than providing them for research? We can’t. [7, p. 1290]

2.

Ads for egg donors are already commonplace on many college campuses, where young women are motivated to undergo egg extraction for much-needed income (\$4-7,000 in most cases) as well as for altruistic reasons. Both of these motivations could influence thousands more young women and economically disadvantaged women to undergo risky egg extraction procedures solely for research, and under circumstances where the benefits are far less clear and mostly still hypothetical. [8]

Sperm donation

3.

Sperm donors are generally paid a minimum of \$25 as compensation for approximately one hour of time and any inconvenience and travel involved. Using this scale, we calculated the time involved in egg donation [...]. According to our calculations, an egg donor could expect to receive \$1,400 for her time alone, exclusive of any compensation for travel, risk, or inconvenience. [...] Since it is standard to compensate men for sperm donation, shouldn’t the policy be equal pay for equal time? [9, p. 737]

4.

In 2006, the HFEA published a directive stipulating that sperm and egg donors should not receive payment beyond reimbursement for out of pocket expenses and up to £250 for loss of earnings. [...] However, considering the often lengthy process of donating sperm or eggs, and in the case of the latter the invasive nature of medical procedures, some critics feel that this amount doesn't adequately reflect the time commitment and risks involved. [...] ‘Egg donation is considerably more invasive than sperm donation, so I don't see why there should be parity. Women have to have hormonal treatment and procedures to extract the eggs. My feeling would be egg donation would be a more serious matter.’ [10]

Live kidney donation

5.

[...] there should be no purchase and sell of eggs [...] commercialization of eggs is a problem [...] It can barely be justified in [...] live kidney donation. Even that’s problematic, but at least here you have someone with a terminal illness whose only option is to undergo dialysis [...]. But even there we will not pay that person to donate their kidney. [11]

6.

Selling ova is in fact very much more like selling kidneys than like selling sperm, in terms of potential loss: ova are finite in number, like kidneys and unlike sperm, and ova extraction is a surgical procedure, like the removal of a kidney and unlike masturbation to produce semen. [12, p. 46]

7.

Altruistic donation is widely considered ideal in clinical contexts, such as live organ donation, where the act carries clear therapeutic benefit. However, this paradigm is unsuitable for oocyte providers in stem-cell research because this scientific field is still in the early stages of basic research. [13, p. 630]

Research subjects

8.

In biomedical research, another practice with some similarities to oocyte donation, human subjects exposed to physical and psychological risks are often reimbursed for expenses. Moreover, they may receive additional payments to compensate for the time and inconvenience associated with study participation. [14, p. S 241]

9.

If participants in medical trials can provide valid consent to paid participation, in full knowledge that some unknown risks may materialize, surely women choosing to donate their eggs to medical science can equally receive compensatory payments and still consent to running the risks inherent in egg retrieval? If payment does not vitiate consent in the first case, why must it vitiate consent in the second? [15, p. 31]

Employment

10.

Does the offer of a financial incentive constitute exploitation of [would-be oocyte donors] or their bodies? This scenario [...] seems no more exploitative than almost all forms of wage labor. [16, p. 295]

11.

Payment based on [a reasonable assessment of the time, inconvenience, and discomfort associated with oocyte retrieval] is also consistent with employment and other situations in which individuals are compensated for activities demanding time and physical effort. [14, p. S241]