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# UNDERSTANDING MORALITY IN THE RELIGION-AND-SCIENCE CONTEXT

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*Recent developments in biotechnology require redefinition of human “being.” In this paper, the author suggest that the term “human being” is substituted with “human betweenness.” This substitution emerges from a philosophical/theological reading of biological texts, such as those by E. O. Wilson, Ernst Mayr, Richard Lewontin, and David Slan Wilson. The betweenness is possible only by the bodily integration (i.e., inclusive fitness or causal efficacy). Yet the need of the integration already presumes the complexity and overlap of the betweennesses (reciprocal altruism or presentational immediacy). The Confucian understanding of morality as the integration of Tao (道 the Way) and Te (德 Virtue) shows the possibility of seeing human “being” as human “betweenness,”—that is, human “being” as the actualization of plural li (理) in the bodiliness (氣).*

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## Introductory Reflection

My experiences of the xenotransplantation lab placement seminar and the “religion-and-science” class have offered me a new perspective to see the world differently than before. The experience of the xenotransplantation lab brought me a moral/ethical confusion from the lack of moral/ethical criteria for directly judging bioethical dilemmas and problems. The class in religion and science has offered me how the current science, that is, biology, has explored human morality and its social nature. Together, the class and the lab placement have led me to think about human moral sense and about how religion and philosophy explain it. Although looking at cognitive science and bioethics have really been helpful for me, I do not mention them because they lie outside the scope of this paper.

Xenotransplantation shows a vision of a human beings hybridized with cells or organs derived from pigs. It is a vision in which the human being seems to become an immortal being, who would be able to extend life until she or he wants to die, by continuously replacing old and worn-out cells and organs with new ones. It would be the fulfillment of the longest-held wish of human beings: to be

immortal or to be divine, by manipulating the natural processes of life. At first, it seemed so, at least to me. In other words, xenotransplantation seems just to repeat the myth of human beings as “the masters of all creation,” when our global community does not have a “reverence for all life.”<sup>1</sup>

In fact, there have also been some negative perspectives of xenotransplantation. According to those perspectives, in short, xenotransplantation is the violation of “a line that should not be crossed” because it will just intensify a desire to increase financial interest.<sup>2</sup> In other words, commercial cross-species transplantation, including xenotransplantation, would just lure into “huge financial incentives for biotechnology and pharmaceutical companies.”<sup>3</sup> The cost of xenotransplantation is expected to outweigh the benefit it promises to offer (\$250,000 per operation in 1995).<sup>4</sup> In this sense, xenotransplantation is just for the chosen.<sup>5</sup>

Further, there is no evidence that researchers have overcome the infection problems derived from xenosis. There are ample evidences in the history of medicine that the crossing over of species boundaries can cause fatal medical disasters.<sup>6</sup> In the case of xeno-

transplantation, there are currently no ways "to screen for all animal-specific diseases" and to avoid "a lethal unknown virus" that can escape our vaccination and testing programs.<sup>7</sup> Worse, no way to predict the possible results from xenotransplantation with regard to its long-term negative effects. Further, according to the report of the Institute of Medicine in June 1996, it is not possible to biotechnologically produce "germ-free" (or pathogen-free) animals.<sup>8</sup>

Moreover, even if researchers can organize a regulatory system to monitor the recipients of xenotransplantation and his/her family and intimates and to prevent the spread of unknown disease, there is no guarantee for it because "weak regulatory oversight, and human error and negligence" cannot be completely eliminated.<sup>9</sup> Given our society's poor ability to manage "the consequences of modern science and technology, including the increasing lethality of military weapons, environmental pollution, rainforest destruction, exponential population growth, and AIDS," we cannot honestly but ask ourselves "whether we have the wisdom and moral maturity needed to deal with the consequences of xenotransplantation and related genetic technologies."<sup>10</sup>

*Selfish motives cannot forever be eliminated from human nature; but, according to this multilevel selection theory, humans can increase altruistic motives voluntarily, so as to increase the fitness of the group.*

Macroscopically, the above problems are not confined to xenotransplantation. Rather, any human development of science and technology more or less accompany some of them. All human activities including xenotransplantation have caused probably by our inborn biological drives. In this sense, science and technology can be seen as the expression of our deliberate action (有爲 *yu-wei*). The

deliberate action (有爲 *yu-wei*) includes the re-formation of our naturality artificially.<sup>11</sup> That is, our deliberate action (有爲 *yu-wei*) as well as the action of non-action (無爲 *wu-wei*) also belong to our naturalness of life. In this sense, we cannot simply reject the biotechnology. If it is worth enough to improve our life situation, we need to think positively about it.<sup>12</sup> For example, the treatment of Parkinson's Disease by xenotransplant technology would contribute to the well-being of the global community. No disease is an individual matter. In a family, when one member gets sick, it at least influences everyone else in the family. In this sense, the benefit of treating a disease is communal.

The real problem is the fact that human beings are not good enough to build a relevant moral virtue for handling the emerging problems from the new scientific/medical technologies. Moreover, they do not have any objective criterion to evaluate the virtue of each person. Although the concept of virtue can offer an orientation towards a solution, it does not offer any details. In this context, religiosity needs to have a more practical perspective toward problematic situations. This is the real problem I see when I look at the matter of xenotransplantation. Can a relevant moral

framework be built in order to discuss human actions (有爲 *yu-wei*) and wisdom (無爲 *wu-wei*). Again, the current problem seems to lie in a "lack of a moral framework" to "form moral integrity."<sup>13</sup> Although the above negative judgment on xenotransplantation,

on the one hand, and science and technology in general, on the other hand, raises many questions, all the questions seem to summarize in the following two questions: Who are we? and what is the limit of human activity (manipulation)? These are the questions of the moral integration. These are what religions have tried to answer throughout their histories. Traditionally, the religious forms

of the two questions are: Why is there something rather than nothing? and, Is everything possible if God does not exist? Can the possible religious answers to these questions bring us a practical ethical option to solve the current moral dilemma caused by the rapid development of sciences and biotechnologies?

These days, some biologists seem to answer these questions.<sup>14</sup> However, their answers seem to be very antagonistic to religion and philosophy. Moreover, their definition of religion seems to be very strange to me. For instance, the conservative and narrow spirituality of the Southern Baptists, against which E. O. Wilson himself stands, is a very tiny part of all the religions in the world. Furthermore, their answers do not seem to say anything new, because the biologists' discoveries about morality are things that many of world's religions have always emphasized. However, it does not mean that religion gives any clear answer to the problems or that science cannot produce a solution. Rather, a way of consilience across the boundary between science and religion needs to be found. From a unified wisdom in human activities, some practical options for the future can be devised.

Nevertheless, we theologians need to keep in mind that, when religions lose a flexibility to see actual situations, they are going to face a threat of disappearing. This is the futuristic vision Wilsonian sociobiology offers,<sup>15</sup> and theologian Willem Drees recommends that religions—including theologians and philosophers—take science seriously.<sup>16</sup>

### **Biological Explanation of Morality**

Biologist Ernst Mayr tries to distinguish the ultimate causation from the proximate causation in explaining morality and ethics.<sup>17</sup> His explanation of morality and ethics is based on the distinction between *inclusive fitness altruism* and *reciprocal altruism*.<sup>18</sup> Mayr's explanation offers a chance to distinguish morality from ethics on the basis of the distinction between inclusive fitness and reciprocal altruism. By doing so, Mayr tries to avoid a kind of biological reductionism, a biology-based systematic analysis of social and cultural phenomena. Mayr's understanding of

the origin of human ethics emphasizes the importance of learning. That is, inclusive fitness is a small part in human ethics. Rather, the inborn tendency should be developed by learning. Thus, the role of culture is emphasized more than inborn genetic mechanism, although the latter is the basis of the former.

By contrast, Wilson's concern<sup>19</sup> lies in making a tight junction between genes and cultures, thus making biology predictive science. For Wilson, sociobiology is "the systematic study of the biological basis of all social behavior."<sup>20</sup> This has led other scientists and humanists to see Wilson's sociobiology as a program of strongly reducing all social behaviors, including cultures, to biological or genetic mechanisms. In fact, Wilson's methodological reductionism is to make science predictive, because, for Wilson, the value or meaning of science lies in its "predictive power," not in its "true description."<sup>21</sup> Thus, by understanding the biology of human inborn genetic mechanism, the future can be influenced on the basis of scientific prediction about the workings of the genetic mechanism. That is, the understanding of the inborn (genetic) tendency for inclusive fitness should be more emphasized; the understanding of inclusive fitness is prior to learning and should be the basis of learning, because learning is carried out on the basis of the predictability of inborn tendencies for inclusive fitness.

However, for Lewontin, "God is in details, that is, good science is based on carefully established facts, not on ambitious models."<sup>22</sup> For Lewontin, there is no way to make any science predictive.<sup>23</sup> It would end in making scientific theories into mixtures with social and political ideologies. Rather, focusing the facts known thus far, we should try to ease the difficulties of contemporary life situations, such as overwork and low wages, according to whatever we perceive of as environment. For Lewontin, the role of science is to describe accurately the real world with its complexity and multilayeredness. The live complexity of reality should not be reduced in order to make a theory that describes it. Any theory that disregards the complex aspects of reality is "bad science."<sup>24</sup> Thus, for

Lewontin, the Wilsonian project of sociobiology belongs to the category of bad science, in that it seeks the predictability of human social behaviors.

For the multilevel selectionists, Elliott Sober and David Sloan Wilson,<sup>25</sup> the basic mechanism of altruism is inclusive fitness. Reciprocal altruism may be a secondary mechanism. To increase the fitness of group, the secondary mechanism intensifies the altruistic motives and behaviors in the primary genetic mechanism of an individual in the group. In this process, there are no singular, but only plural, motives in human moral behavior. Selfish motives cannot forever be eliminated from human nature; but, according to this multilevel selection theory, humans can increase altruistic motives voluntarily, so as to increase the fitness of the group, the inflated self that sets up a boundary between the Other (identified with "my"-self) and the other (abjected as "someone-else-self"). Moreover, this group selection process can take place both on the genetic and cultural levels. Although this multilevel selection theory does not show the tight connection between genes and culture, the secondary mechanism can increase the frequency of altruistic behavior by complementing the primary biological mechanism through social structures, laws, moral imperatives, and so on. Thus, this multilevel selection theory shows a rough picture of the interaction between genes and cultures; and, in my view, this picture is very much closer to the Wilsonian project than to Mayr and to Lewontin, in that genes and culture are really interconnected with each other.

All of the biological theories exclude any religious and philosophical explanation from their understanding of morality and ethic. All of them think that no religious explanation is any longer needed to explain the meaning of life and the justification for morality. For theologians and philosophers or humanists, these arguments sound very strange, because what the biologists think of as religion seems to be incredibly narrow, and also because what the biologists have discovered as "new" about

morality and meaning of life does not seem to be anything new. Biological theories do not take theology and religion (and philosophy) seriously enough.

Nevertheless, the scientific explanations of morality are sufficiently clear to allow a rough picture to be drawn about interconnections between genes and culture, and the relation between body and mind. This picture seems to offer a starting point for the integration of religion and science. In Whitehead, this interconnection between genes and culture, between body and mind, is expressed as "causal efficacy"; and in Confucian thought, it is expressed as the unification of body and mind through moral self-cultivation. The causal efficacy matches with the interconnection of genes and culture, and moral self-cultivation seems to be a religious contrast to volitional evolution, especially in E. O. Wilson's thought.

### **Philosophical and Religious Explanations of Morality in Terms of Human Bodiliness and Betweenness**

All these biological explanations are centering on the "causal efficacy" or "human bodiliness" of morality. We humans are biological beings. Our cultural architectures may be historical extensions of our biological mechanism.

None of the above biological explanations of morality allows theology or philosophy to offer wisdom for the future of human beings. For example, Wilson has a certain moral aim that is "a quantitative explanation of all aspects of human social behavior [to be] able to formulate a trajectory of mankind's future (as a substitute for divine prophecy)."<sup>26</sup> Thus, his moral task is to exclude "the divine spirit and other extraneous agents" from the explanation of human nature and also to explain divine revelation in terms of the "quantitative explanation," because Wilson thinks that both theology and Western philosophy are currently unable to offer the needed wisdom for the future of humankind.<sup>27</sup> By doing so, Wilson puts science at a position of importance higher than the humanities and social sciences, exaggerating that only science "pre-

scribes the correct values for us.”<sup>28</sup> Mayr shares, at least in part, the same spirit. His explanation of morality and ethics never offers even a tiny space for religion and theology. In Lewontin’s framework of gene-organism-environment interaction, there is no need for seeking anything transcendental. What we have to do is back to our ordinary-

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ness to solve the problems on the basis of the existing established facts.

Here, the theologian cannot but ask: Does biological science do a sufficient job in explaining morality? Is this kind of biological explanation of morality really new? Is it fair to say that theology and philosophy have lost their power to offer wisdom for humanity? From the perspectives of theology and philosophy, the thing that is “in the details” is actually the devil, not God.<sup>29</sup> If science is to be taken seriously, then the same seriousness ought to be paid to religion, theology, and philosophy.

In this paper, the philosophical and religious explanations of morality that I take are centered on ordinary human life. Philosophical explanation focuses on the bodily aspect of human life, emphasizing creativity. Religious explanation mainly deals with the transcendental, trying to figure out how the transcendental intrudes into our ordinary life. Both philosophical and religious explanations are seen as two sides of the same coin.

Both the philosophical and the religious explanations show that moral integrity is the result of inborn tendencies combined with learning.<sup>30</sup> Indeed, for religion and philosophy, religious morality has for a long time emphasized the importance of moral self-cultivation through learning and study and the improvement of moral propensity through the bodily practice of morality. Thus, for Confu-

cianism, morality has always been a matter of knowing *Tao* (道) and of practicing it by accumulating *Te* (德 moral energy to flow out).

***The moralistic interpretation of whitehead’s philosophy of organism***

In Whitehead’s philosophy of organism, morality heavily depends on the feelings of the subject-superject.<sup>31</sup> In the process of the subject-superject, the actual entity decides what it is itself “in virtue of its feelings.”<sup>32</sup> It is the decision of its future relevance.<sup>33</sup> The selection or decision of an actual entity in term of its feelings is understood by “our notion of moral responsibility.”<sup>34</sup> The process as a selection is required by “the depths of life.”<sup>35</sup>

On the one hand, morality in life lies in the facts that “life is robbery” and that “the robber requires justification.”<sup>36</sup> In this context, life is “a characteristic of ‘empty space.’”<sup>37</sup> Thus, morality is a response to “a certain social deficiency,” which always exists between living beings.<sup>38</sup> On the other hand, the fact of evil ultimately lies in the fact that time is “a perpetual perishing.”<sup>39</sup> It means that the process in time unavoidably accompanies with selection. Thus, selection is “at once the measure of evil, and the process of its evasion.”<sup>40</sup> By this selection, the actual entity completes its objectification. Thus, the whole process of an actual entity is the process of admission and elimination for future relevance. In this sense, the decision of an actual entity is “a decision referent beyond itself,” one anticipating its objective immortality.<sup>41</sup> In this sense, morality lies in a decision for future relevance, and it is the process of passing on creativity. This image of creativity offers the image of human beings as responsible decision-makers and, thus, as a co-creators; and this image of co-creator provides a very common motive for developing an overall moral framework in an age of biotechnology.<sup>42</sup> My religious vision of human “betweenness” puts a ques-

tion mark on this image of human beings as co-creators.

For Whitehead, morality is basically a response to biological and cultural past inheritance. Nevertheless, the moral decision of an actual occasion cooperates with the initial aim from God's primordial nature. The transmutation of causal efficacy into presentational immediacy means this cooperation of the actual occasion with God's initial aim. From this perspective, inborn tendency and learning both belong to the category of causal efficacy. It is the cooperation with the initial aim that transmutes causal efficacy into presentational immediacy. In other words, the concrescence of an actual occasion is wider than that of open behavior program or epigenetic rules. Nevertheless, it is not just a "developmental noise" at the level of molecules, because the initial aim is guidance for the actual occasion and because it comes from the awareness of the whole cosmic process—simply put, from God. In a sense, Lewontin is right in that the interaction between genes and environment does not completely explain reality; but neither does the developmental noise completely explain the concrescence of the actual occasion.

#### *Confucian interpretation of morality in terms of human betweenness*

Humans live in every unified eventuation of "bodiliness" and "betweenness." Human bodiliness roughly means that all human activities are based on their bodies. Human activity always seems to have its "oughtness", whose origin is not clear for the present.<sup>43</sup> Human activity is an intersected occasional unification of the bodiliness and the oughtness, and this unity consists of human relations. If a certain behavior is detached from its life situation, the question of the oughtness never comes up. Conversely, because a person is always in life situation, he or she cannot escape the question of

oughtness. This oughtness comes to us through the betweenness. There are you and I. Between you and me, there is nothing if we think we do not have any relationship. However, even in this case, there is a relationship between us, because both of us are human beings. Thus, between you and me, there is the betweenness of human being, which seems to require at least propriety for the category of human being.<sup>44</sup> In most cases,

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the betweenness relation is mistakenly seen as a singular or monolithic state between two persons. However, human relations between two people are more complex, because my relation with you consists, for example, of the between-professor-and-student relationship, the between-White-middle-class-and-Yellow-lower-class relationship, the between-Christian-sister-and-brother relationship, and so on. Each relationship is termed "betweenness," because it describes the relational space-between-people. In this framework, relationality or interpersonality is a very huge complex consisting of many betweennesses that impose the oughtness of each relation on the related persons.

All the biologists mentioned in this paper agree that genes, organism, and environment are all interacting. The organism integrates the biology of the body and culture by the open behavior program or by epigenetic rules, or it just functions as the "developmental noise" on the level of molecules. A consensus among these biologists is that morality is the combined development of inborn tendencies and learning. Even in Lewontin, the developmental noise, which produces organismal variations, is formed as neural connections during

development. The formation of the connection may seem to be a random process from the perspective of a determinist, but it is formed by an inborn mechanism and its transmutation of environmental signals into molecular signals. It does not preclude a possibility that the environmental signals include signals formed by learning. The contentions between the biologists concern whether the interaction can be regulated voluntarily by human interventions and whether the interventions can be done in a predictive way.

The answers of Whitehead and Confucianism are: microscopically, "No" to both of the questions; but macroscopically, "Yes" to both. The exact pathway of the transmutation of causal efficacy into presentational immediacy cannot be determined. Also, there is no universal principle to integrate all the *li* ( 理 betweenness[es]) within *chi* ( 氣 bodiliness). Always, the integration of *li* and *chi* into human mind is highly context-sensitive.<sup>45</sup> Nevertheless, the human mind can discern the initial aim among its causal efficacy and presentational immediacy. The ability to discern it or to have *jen* ( 仁 humanity) is very likely an inborn mechanism called "moral sprout" by Mencius.<sup>46</sup> It should be developed by learning.<sup>47</sup> Whether the interference of the inborn moral tendency by learning can be genetically stored and transmitted to the next generation is totally a scientific question, but at least on the level of culture, it is surely transmitted.<sup>48</sup> It is the reason many of human societies have had an ideal of moral society. Thus, Wilsonian vision of volitional evolution is at the discretion of later scientific discoveries. However, his reasonless antagonism against religion and his insistence of the replacement of religion with the evolutionary epic are unfortunately very quick-tempered. Here is my contention: Is the initial aim explained well by the biological explanations? Even Wilson sees the role of the initial aim, which is the divine (or sublime) vision of humanity. The volitional evolution has been carried out in terms of human vision of the Great Whole.<sup>49</sup> The evolutionary epic does not add anything to this religious vision, nor can it

replace the vision as the guiding hand of human voluntary evolution.

## A Religious and Philosophical Response to Biological Morality

When morality is seen as "connected to the genes responsible for the human essence," it is in fact "nothing but a self-serving for survival," because it is anyhow to increase the fitness of an individual as a provenance of auto-affection or a group as the extended identification of the "I" in terms of self-sameness.<sup>50</sup> It may be a mere variation of hedonism, according to which the ultimate desires are after all "the desires to obtain pleasure and avoid pain."<sup>51</sup> Egoism leads the ultimate goals, whether consciously or unconsciously, to a "self-directed" one.<sup>52</sup> However, we know that we sometimes act altruistically, although we are never absolutely and always altruistic. What really matters here is how we can increase the frequency of the operation of altruistic motives in our lives. How do we make our motives other-directed? Although Wilson says that it is possible by knowing biology, it is an ever-impossible project to make people other-directed or altruistic by any artificial instrumental means. It is a matter of self moral integrity through moral self-cultivation.<sup>53</sup> It is the matter of knowing the transcendental amid the affairs of life—not the transcendental into the other world, but that into this world. How do we know it? Here lies awe in front of mystery in our walking on the Way ( 道 *Tao*).

Achieving self moral integrity is the matter of discerning the initial aim of God's primordial nature by an actual occasion within the range of causal efficacy and presentational immediacy. Eternal objects show God's mind, although God's initial aim is always changing as we actual occasions are always changing. Although Lewontin thinks that it is impossible to make biology predictive, it is possible for us to get wisdom for the future in the interaction between actual occasions, causal efficacy, presentational immediacy, and the initial aim. What we can get is not predictive information but wisdom that is shown to us as the initial aim. Achieving the



self moral integrity also is the matter of getting *Te* ( 德 virtue). *Te* is the integration of the countless *li* ( 理 ) in the bodiliness ( 氣 ), and by doing so, it makes all the people beneficial because *Te* flows naturally out of the person and influences others, encouraging them to follow *Tao*.

All of our motives are probably biological, because inclusive fitness is the ultimate goal of all the organisms. However, this inclusive fitness is maintained by secondary behaviors—at least, in human cultures. In human societies, reciprocal altruism is more prominent, as Mayr sees. It is not surprising that almost all religions have emphasized the communality of human beings. Although Confucianism expresses the reason for moral integrity in the realm of the sublime, it never sought for integrity itself. Without actualizing in ordinary, complex, human relationality, anything called *Tao* is not *Tao*. Although Wilson believes that religions and their sacred mythologies can be replaced by “the epic of evolution,” the Sociobiology project just shows how we can increase our fitness for the future. It is Wilson’s idea of volitional evolution and predictive science; that is, his vision of volitional evolution involves the increase of inclusive fitness as an extension of fundamentally egoistic motives, regardless of individual or of group. However, the genuinely altruistic motive emerges from a level different from inclusive fitness, as Mayr mentions.

Nevertheless, theologians must take science seriously.<sup>54</sup> Theologians need to accept that science literacy is very important.<sup>55</sup> Indeed, methodological reductionism should not be confused with metaphysics of reductionism.<sup>56</sup> We theologians also analyze things. The real truth, God, is beyond our determinateness. God is the indeterminate.<sup>57</sup> Truth, indeed, is unnamable. In order to see Truth, we are analyzing it and reducing it in the form of value. A simple (theological or philosophical) resistance against reductionism, whether methodological or metaphysical, does not help theologians to criticize science. A good criticism should always recognize advantages and disadvantages at the same time and be bal-

anced. In this sense, one needs to remember that bodily self-cultivation includes study of things. We need to be informed of science. Without enough information and knowledge, wisdom does not come to us. Thus, Chu Hsi emphasized the importance of the investigation of things and the reflection on them.<sup>58</sup>

Also, we need to be sensitive to the context. *Tao* does not exist without the common affair. To keep concentrating on my personal and ordinary matter will disclose the mind of *Tao*. It does not end in my private enlightenment because personality already abides in the betweennesses. In this interconnected living, we need to discern the “constant mean.”<sup>59</sup> In fact, in a society where a fact and its utility are not clearly separated but rather intimately connected, a mere statement of fact is “never really a ‘mere’ statement of fact.”<sup>60</sup> That is, scientific truth is “not dependent on particular individuals,” but rather “the criterion of truth is a communal one.”<sup>61</sup> In this situation, one clear possibility of preventing the misuse of science for political ideology is “to keep the public better informed.”<sup>62</sup> The uncritical close tie of our moral judgment to the latest scientific knowledge will just reinforce our unconscious (social or political) ideologies.<sup>63</sup> In this sense, “a moral/political debate around the potential implications of science may be the only possible way to go.”<sup>64</sup> It will make science healthier.<sup>65</sup>

### *Back to ordinary life*

Moral integrity exists in our ordinary life, neither only in our genes nor only in our environment, nor only on the level of molecules. Morality is the matter of the integration of all the level of life in ordinary life situations. It is the unification of Heaven, Earth, and human mind in human ordinary life. All the pathways of causal efficacy cooperate in this unification. In ordinary life, Heaven’s mind is manifested in our betweenized pattern of relations through our moral courage. This can be seen as the creative unification of God’s creative act and human mind through the Creator-created determination.<sup>66</sup>

Indeed, ordinary life is the scene of bioethics.<sup>67</sup> Without referring to ordinary life, our

oughtness seems to be groundless. This oughtness arises when I look at the face of the other. The relationship between my/self and the other is betweenized, for example, through the husband-wife pattern. What I ought to do in this betweenness is very context-sensitive. There is no universal principle or norm for the action. However, I feel humanity (仁) in the betweenness. In this ordinary life, moral integration is a very long process, maybe a life-long one. We may fail. Nevertheless, I wander amid wonder.<sup>68</sup> This awe in ordinary life cannot be reduced to mere developmental noise.

Also, one needs bear in mind that human hands are hidden behind all the activity of human beings, including scientific activity.<sup>69</sup> These hidden hands should be brought to visibility into ordinary life for all to see. They should be visible to the eyes of others because there is humanity abiding in the hands. The unity of humanity and the hands is the ideal of moral integrity (知行合一). When knowledge and action are united as humanity (仁) in human mind, everything is permitted, because God (or Heaven and Earth) is there. The locus of the transcendental God is ordinary human life. The investigation of things (study and learning) leads us closer to God.

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### Endnotes:

1. Berger, pp. 3-4.
2. Turning Point Project, p. 1.
3. Medical Research Modernization Committee, para. 1. See also Turning Point Project, p. 2; and Berger, p. 2.
4. Berger, p. 2.
5. Ibid.
6. Turning Point Project, p. 1.
7. Berger, p. 3; Medical Research Modernization Committee, para. 8.
8. Medical Research Modernization Committee, para. 10; Berger, p. 3; Turning Point Project, p. 2.
9. Medical Research Modernization Committee, para. 11.
10. Medical Research Modernization Committee, para. 15.
11. Ivanhoe, pp. 32-33.
12. Cf. Wildman, p. 173.
13. Reiss and Straughan, p. 6; McKenny, p. 5.
14. Mayr; Wilson, *Consilience*, p. 265.
15. Wilson, *Consilience*.
16. Drees.
17. Mayr.
18. According to Ernst Mayr, inclusive fitness altruism is based on the basic instinct like "defense of the offspring by the mother or the father" (Mayr, p. 251). Although this type of altruistic behavior is apparently seen as altruistic, it is in fact egoistic "from the point of view of the genotype," because this type of behavior, after all, contributes to the passing on of the genotype in question (Mayr, p. 252). Reciprocal altruism, according to Mayr, can simply mean "a mutually beneficial interaction among unrelated individuals" (Mayr, p. 253). This type of behavior shows the transition from innate moral to ethics in human behavior. Yet the importance of morality derives from the innateness, the givenness, of desire to integrate. Thus, simple contrast between primitive moral (inclusive fitness) and advanced ethic (reciprocal altruism) does not work.

19. Wilson, op cit.
20. Segerstrale, p. 26.
21. Ibid., p. 260.
22. Ibid., p. 40.
23. Lewonton.
24. Segerstrale, p. 40.
25. Sober and Wilson.
26. Segerstrale, p. 40.
27. Ibid., pp. 159, 351-52; Wilson, p. 269.
28. Segerstrale, p. 363.
29. Wildman, p. 169.
30. A combination of causal efficacy and presentational immediacy in Whitehead, Confucius, Mencius.
31. Whitehead, *Process and Reality*, p. 222.
32. Ibid.
33. Ibid., p. 27.
34. Ibid., pp. 222, 255.
35. Ibid., p. 340.
36. Ibid., p. 105.
37. Ibid.
38. Ibid.
39. Ibid., p. 340.
40. Ibid.
41. Ibid., p. 60.
42. Cf. Wildman.
43. Fingarette.
44. Ibid.
45. Fung; Ivanhoe.
46. Ivanhoe, p. 18.
47. Ivanhoe.
48. Sober and Wilson.
49. Fung.
50. Segerstrale, p. 397.
51. Sober and Wilson, p. 224.
52. Ibid.
53. Fung; Ivanhoe; Fingarette.
54. Drees, p. xi.
55. Chapman, p. 3.
56. Segerstrale, p. 285.
57. Neville.
58. Ivanhoe, pp. 50-51.
59. Fung.
60. Segerstrale, p. 375.
61. Ibid., p. 385.
62. Ibid., p. 389.
63. Ibid.
64. Ibid., p. 390.
65. Ibid., p. 408.
66. Neville.
67. Thomasma and Kushner, pp. 1-2.
68. Drees.
69. Brooke and Cantor, p. 5.

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