

“BRAIN DEATH” IS NEITHER HUMAN DEATH NOR ITS CRITERION –  
CERTAINTY AND DOUBT: AN ANSWER TO LEE, CONDIC, AND OTHER  
DEFENDERS OF BD DEFINITIONS AND CRITERIA OF HUMAN DEATH

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I. INTRODUCTION

There are many arguments in favor of “brain death” amounting to actual death that I do *not* wish to discuss critically in this essay. These are of three kinds:

A. ARGUMENTS IN FAVOR OF “BRAIN DEATH” THAT PRESUPPOSE AN  
ENTIRELY WRONG MATERIALIST OR PROCESS-PHILOSOPHICAL THEORY  
OF THE HUMAN PERSON<sup>1</sup>

If a materialist theory of the person *were* right and if there *were* no human mind or soul but the person would be identical with, or a product of, brain events, then “brain death” would indeed be death, and not only be the earthly/temporal “death of the ‘person,’” but his definitive destruction or annihilation.<sup>2</sup>

B. PRAGMATIC ARGUMENTS AND THE WISH TO OBTAIN ORGANS FOR  
IMPLANTATION OR TO HAVE A CRITERION FOR SWITCHING OFF  
MACHINES

I omit these arguments (the only ones the 1968 Harvard report used when it introduced the “brain death” notion),<sup>3</sup> because they are first of all not necessarily espoused by adherents to “brain death” definitions and secondly because they possess absolutely no theoretical scientific value but rather constitute additional motives for doubt of the scientific objectivity of “brain death” definitions. Such pragmatic arguments should have *absolutely no impact on the philosophical question of the truth about death*. That I can make good use of the organs of a human being does not make him or her dead and if I have no better argument than the usefulness of his organs, I should abandon “brain death” definitions altogether and indeed be ashamed of introducing such arguments into a scientific discussion of death.

C. I OMIT, THIRDLY, DOWNRIGHT (MEDICALLY AND PHILOSOPHICALLY)  
SILLY ARGUMENTS:

Such as that the brain dead person is dead because he will die soon, as if imminent dying would prove present death rather than refuting it because dying presupposes life; or that the brain dead person is dead because he would be dead without the aid of a machine, so as if many other clearly living persons would not likewise suffer death if you disconnected them from some machines.

What remains then for us to discuss?

## II. MAIN ARGUMENTS ADVANCED IN FAVOR OF “BRAIN DEATH” DEFINITIONS AND THEIR CRITIQUE

### 1. FIRST ARGUMENT: “BRAIN DEATH” IS DEATH BECAUSE IT ENTAILS A LOSS OF INTEGRATION OF LIFE, WITHOUT WHICH PROPERLY HUMAN LIFE OF THE ORGANISM IS LOST

*Summary statement of this argument: The brainstem is the “central integrator.” Without its function, the human body disintegrates or is reduced to a mere collection of disassociated organs and cells.<sup>4</sup> A brain dead body is basically the same as if, after a deadly accident of your son, you keep his kidney, liver, or heart in your refrigerator – except that the brain dead corpse looks nicer and more human.*

*This argument favors brainstem death (or whole “brain death”) definitions because only the brainstem can be said to fulfill such a purely biological integrative function.*

#### A. OBJECTION 1: A GREAT AMOUNT OF INTEGRATION REMAINS

D. Alan Shewmon has studied this argument, which he had once adamantly defended,<sup>5</sup> with a highly commendable scientific rigor and depth, based particularly on the exact study of 56 cases of long-term survivors of “brain death.” He compiled two almost equally long lists of integrative functions, only one of them depending on the functioning brainstem.<sup>6</sup> He concluded, as any scientist should do, that it would be scientifically untenable to choose one of these lists over against the other and to continue to uphold his earlier view that brain dead humans lack all integration given that both lists are equally impressive.<sup>7</sup>

We need only consider the brain dead pregnant woman who gives birth to a child or follow the over fifty cases of brain dead patients closely that have been carefully studied, to see the *world of integration* present in such cases of chronic “brain death”, for example in the boy TK, who survived from age 4 to age 24, who thus was “brain dead” for over 20 years and who was carefully examined by Shewmon.<sup>8</sup> You have to conclude from our simple experience of brain dead patients and of what we observe in them, as well as from rigorous scientific studies: a huge amount of integration remains in the brain dead, and integration has many degrees and kinds such that you must not identify some of them as signs of life, dismissing all other equally impressive integrative physiological functions as if those who continue to evidence them could be declared dead.

In her paper “**Determination of Death: A scientific perspective on biological integration,**” Maureen L. Condic objects that Shewmon confuses integration and coordination. She makes an interesting distinction “between integrated and coordinated biologic activities” and states: “While communication between cells can provide a *coordinated* biologic response to specific signals, it does not support the *integrated* function that is characteristic of a living human being.”<sup>9</sup>

In the case of coordinate biological response we would not have human life; in case

of “integrated function” we would have it. She goes on stating: “To distinguish between a living human being and living human cells, two criteria are proposed: either the persistence of any form of brain function or the persistence of autonomous integration of vital functions. Either of these criteria is sufficient to determine a human being is alive.”

She argues that the simplest criterion of death, total cellular death, which occurs only approximately one week after clinical death,<sup>10</sup> cannot be applied because using it would be counterintuitive and would mean that embalming the dead or burying them prior to one week after death would be killing them. Her observation is undoubtedly correct but in this case we truly deal with isolated cells that lack both coordination and integration.

#### B. WHAT ARE “INTEGRATED” AS OPPOSED TO “COORDINATED FUNCTIONS”?

Maureen Condic emphasizes the distinction between “integrated” and “coordinated” functions, or, better, between an organism and an aggregate of cells and expresses their difference at first very well.<sup>11</sup> However, her effort to seriously liken an entire BD human organism, with its overwhelming number of clearly “integrated functions” to an isolated limb from an animal fetus, attributing to both of them nothing but “coordination” seems to overlook entirely the striking differences between both and the fact that the list of “integrated functions” that Shewmon gives and that she cites (for example proportionate growth) cannot at all be verified in her examples of “coordinated functions.” Drawing this comparison, she seems to forget decisive elements of these distinct phenomena.

Moreover, she goes on to confuse this distinction even more by giving a definition of “integration”<sup>12</sup> that fails to describe correctly what characterizes the human life as such as opposed to mere coordinated functions, because there are countless human beings clearly and fully alive, to whom not all parts of this definition apply. For example, how does a comatose patient “generate a response that (1) is multifaceted, (2) is context dependent”? How does a man whose legs and arms have been amputated and many of whose organs have been removed “take into account the condition of the whole” (which he no longer possesses)? How does a dying and seriously ill HIV patient “regulate the activity of systems throughout the body for the sake of the continued health and function of the whole”? Moreover, she transforms her untested and non-evident thesis (synthetic proposition) first into an analytic (tautological) judgment and then adds a synthetic part of the proposition, committing, however, the logical fallacy of a *petitio principii*, saying: “Integration is (by definition) a global response” (what is a global response? Response to what?) “and during postnatal stages of human life is uniquely accomplished by the nervous system, most especially the brain.” (Ibid., p. 15) Is not this exactly what has been clearly proven to be false by Shewmon, Austriaco, and others? If her sentence is interpreted as claim that integration in the postnatal stage is “by definition” solely accomplished by the nervous system and the brain, she would claim that the results of Shewmon’s study are “by definition false”, which obviously is not the case.

Condic also offers a kind of *reductio ad absurdum argument* to attack the proof of

integrated human life in “brain dead” patients provided by Shewmon. However, her statement about the absurd consequences she attributes to the result of Shewmon’s investigations falsifies the real meaning of his argument and commits a further begging of the question.<sup>13</sup> She claims that “the *integrated* function” “is uniquely provided by the brain at postnatal stages” and that if this “function uniquely provided by the brain” were not “required for human life,” “distinguishing the living from the dead would simply be a matter of degree.” Moreover, without offering any proof for such a claim, she calls the highly impressive list of integrated functions Shewmon gives “an arbitrary level of coordination” that is not “sufficient to conclude that a human organism remains alive.” Moreover, she claims that if the highly impressive list of integrated functions Shewmon gives, showing that the “brain dead” patient is precisely *not* a mere collection of disassociated organs, were sufficient to show that the organism as such is alive, “then an organism is nothing more than the sum of its constituent parts” and that “the view that a body remains alive after the death of the brain is fundamentally a reductionist argument that denies the existence of an integrated human whole beyond the properties of the cells and organs that comprise the body.”<sup>30</sup> If this view were correct, then human death would not occur until every single cell in the body had died. (*Ibid*, p, 18).” All of this seems a non sequitur.

Condic’s and many other defenses of “brain death” depend on philosophically insufficient notions of the concept of human life as “integrated biological life” or as “a whole of integrated organic functions of the human organism.” This notion of human life underlies many “brain death” debates, and leads to faults in the argumentation of Grisez-Lee (abbr. GL), Condic-Moschella and others in favor of “brain death” definitions and criteria of death.

#### D. A SECOND OBJECTION AGAINST CONDIC-MOSCHELLA: HUMAN LIFE IS NOT REDUCIBLE TO “INTEGRATED BIOLOGICAL LIFE”

Secondly, Condic-Moschella’s and many other defenses of “brain death” depend on philosophically insufficient notions of the concept of human life as “integrated life” or as “a whole of integrated organic functions of an organism” (instead of “life of an organism as such”). One of the consequences of ambiguities in the concept of “integrated life” are faults in the argumentation in favor of “brain death” definitions and criteria of death.

Of course, the union of body and soul in the beginning and during the earthly life of the human person, and with them a certain inner unity and integration of many cells, organs, body systems, and portion of the physiological life of the human organism as such, is part of human nature, it is the *differentia specifica* that distinguishes man from other persons. And this dwelling of the human soul in union with, and as “form of,” the human body entails a certain integrated wholeness of the cells, organs, systems, and functions of the human organism. Condic and others are of course right when they say that precisely this integrated unity of the bodily life of man is not continuing in a cell-culture taken from my arm and analyzed by Condic years after my death.

But the presence of the living rational soul in the body that depends no doubt on some of those functions and on a minimal level of their “integration” is *not* this integrated whole of body cells, of organs, and body parts. The intrinsically living human soul that bestows life on the body as such is the cause of this integration of cells

but not identical with them nor with the fragmentary life of its own that each cell of our body possesses and that may survive our death. Moreover, our life and presence of the soul in the body persists even when large portions of our body are lost and large parts of integration between our organs have ended.

Condic and Moschella seem to have a notion of human life in which instead of the presence of the soul in the body constituting the earthly life of man, whether or not the whole body is preserved, the life of man would just consist of "a functional whole of the organs of the human body and of trillions of cells."<sup>14</sup> Therefore, when, upon "brain death" sizable portions of bodily integration are lost, they claim that death has occurred. But human life precisely does not consist in the entirety of these coordinated functions and can persist with a minimal part thereof being preserved. If a high cervical cord quadriplegic with panhypopituitarism is a living patient, and therefore an "integrated" organism and not merely a set of "coordinated" functions, then so is a "brain dead" patient.

Similarly little usable is Condic's definition of coordination as opposed to integration.<sup>15</sup> For "the ability of a stimulus, acting through a specific signaling molecule, to bring responding cells into a common action or condition" that "can reflect either (1) a single type of response that occurs simultaneously in multiple cells or (2) a set of synchronous, but cell-type specific responses;" is certainly not faintly precise enough to describe all the kinds of integrated responses of "brain dead" individuals meticulously examined and labeled by Shewmon. On the other hand, Condic seems to return to using a faulty "begging the question argument" by claiming that integration can only be accomplished by the brain (which has to be proven), while "coordination can be local or global and is accomplished both by the brain and by other signaling systems." Moreover, this statement seems to be contradictory for how can the coordination she attributes to the "brain dead" body (both) "be accomplished by the brain"?

B. OBJECTION 2: THAT LOSS OF INTEGRATED UNITY IS NOT DEATH IS PROVEN  
BY CASES OF SOME FARTHER REACHING LOSS OF INTEGRATION WITHOUT  
"BRAIN DEATH" AND WITHOUT LOSS OF CONSCIOUSNESS, AND HENCE IN  
CLEARLY LIVING PERSONS: SUCH AS AFTER SPINAL SHOCK OR LESIONS IN THE  
UPPER SPINAL CORD.

Integrated biological function is, at least as much as in the "brain dead," absent in some cases of spinal shock, upper spinal cord lesions, etc. In these cases it is absolutely clear that these persons are not dead, even when additionally their brainstem function is lost, because they have or can attain, at least by electric stimulation, consciousness; and it is indubitably certain that no one who is conscious is dead.<sup>16</sup> Thus the less drastic loss of (a part of) integrative unity that is caused by dysfunction of the brainstem, and *does not include loss of the integrative functions (a) of the spinal cord and (b) of the non-hypothalamically mediated endocrine systems*, i.e., the endocrine subsystems that do not depend on the hypothalamic-pituitary axis, is not death or a valid sign of death. Even if additionally the integrative functions of the brain stem are lost by some hemorrhage, without destroying the cerebral hemispheres, the patient may, in principle, be aroused

to consciousness by electric stimulation and hence certainly is not dead.

## MOSCHELLA'S OBJECTION TO "OBJECTION 2"

Melissa Moschella, in her "Deconstructing the Brain Disconnection-Brain Death Analogy and Clarifying the Rationale for the Neurological Criterion of Death," JMP 2016, criticizes this particular argument or "trump card" Shewmon developed against identifying "brain death" with actual human death. She attributes to Shewmon a variety of logical mistakes in his argument against "brain death" from the comparison between the lacks of "integrative unity" in the "brain dead" and in the individual who suffered spinal shock or upper spinal cord lesions:

- A. Her critique of this second objection of Shewmon against identifying "brain death" is first based on an in my opinion mistaken formulation of the premises and logical form of the argument of Shewmon. I will not here investigate in detail the reasons why I think Moschella's rendering of Shewmon's premises and logical structure of his argument is mistaken. That she does not offer a "deconstruction of Shewmon's argument" and that her reproach of logical mistakes in Shewmon's second main argument against "brain death" being actual death is mistaken can be shown in a simpler way.

Shewmon's premises and logical form of argumentation could be stated in many forms, but the simplest way that allows us to see that both premises are true and the reasoning correct would be this:

1. *A patient is dead because of a loss of the integration of the different organs and bodily functions brought about by the brain (stem) if, and only if, there is no case of a clearly living patient who suffered the same or a larger amount of loss of integration of the different organs and bodily functions brought about by the brain (stem).*
2. *There is such a case of a clearly living patient who suffered the same or a larger amount of loss of integration of the different organs and bodily functions brought about by the brain (stem): namely the patient who suffered certain upper spinal cord lesions.*

*THEREFORE: A PATIENT IS NOT DEAD BECAUSE OF THE LOSS OF BODILY INTEGRATION DEPENDENT ON THE FUNCTIONING BRAIN (STEM).*

The logical form (expressed in traditional logic) we have given Shewmon's argument is a perfectly valid hypothetical-categorical syllogism of the form *modus ponens* (in which both condition and conditioned part of the hypothetical judgment can be affirmative or negative):

*S is P, if and only if Q is not R.*

*Q is not R*

*S is not P.*

Both of the premises are evidently true; the logical form correct; therefore the conclusion is true as well.

- B. Moschella's second objection to this second argument of Shewmon



against “the loss-of- integrated-wholeness-argument-for-brain-death” is very much based on the following understanding of “being an organism”:

On the basis of the foregoing discussion, I propose the following as a necessary and sufficient condition for being a living organism: A putative organism really is an organism if it possesses the *root capacity for self-integration*. Possession of the root capacity for self-integration (of which the soul is the principle) is evidenced by (1) possession of the material basis of the capacity for self-integration—i.e., the capacity for control of respiration and circulation—or (2) possession of the material basis of the capacity for sentience. (Moschella, *ibid.*, p. 11)

This definition raises a variety of serious problems: 1. It does not take into consideration the character of organisms and capacity of “self-integration” of plants who lack sentience and the capacity for the control of respiration and circulation; 2. It implies that animals and men have “control over circulation” which they do not possess; 3. It seems to confound the fundamentally different phenomena of respiration and breathing. Only the latter is, minimally, under our control. If it fails but is replaced by ventilation, respiration continues with or without consciousness of the person. There are other problems with her statements that I will not consider here. But I think the ones mentioned suffice to show that her objection is not valid.

C. Her third objection is based on her thesis that, as the thought-experiment of the decapitated person used by Shewmon himself in 1985 shows, the brain itself is, in the last analysis the organism that must be integrated, rather than just integrating the rest of the body whose integration flows from the brain. Moschella rightly points out that “integrated function in the rest of the body besides the brain” (which allows a parallel between the effect of “brain death” and the effect of upper spinal cord lesions) is not identical with “integrated function in the rest of the body PLUS IN the brain”. If he (at least implicitly) used the term “integrated function in the body” in this double sense, his argument would be guilty of a quaternio terminorum that would render it invalid. Therefore, according to Moschella, if the brain ceases irreversibly to function and thus loses its inherent “integration”, the human being is dead even if the rest of the body continues to function and show integration. As this objection coincides with the third rationale of arguing for “brain death” being actual death, we will treat it below and see that the correct logical critique of Shewmon’s second argument against “brain death” *if his argument would contain the mentioned quadruplication of terms*.

### C. OBJECTION 3: INTEGRATIVE UNITY OF BIOLOGICAL FUNCTION, HOWEVER CLOSELY RELATED TO IT, IS NOT HUMAN LIFE – HUMAN LIFE AS THE UNION OF BODY AND SOUL

Moreover, integration has many dimensions and kinds and therefore, as the upper spinal cord lesion shows, a very large amount of integrated life activity can be lost without death having set in. There exists of course a minimal biological condition of



integration in the body for a human being to live: therefore isolated organs in a refrigerator contain many cells and these single cells possess life but they *do not possess human life*. But also inversely, in no way is integrated biological life in all body parts and functions necessary for the life of the human organism to persist; for obviously we can lose a tooth or a finger, or a leg or all limbs without dying; you can even eliminate all transfer of oxygen through the blood (in some cryo-conserved states) and all respiration in organs and cells, and still preserve human life.<sup>17</sup>

## 2. SECOND MAIN ARGUMENT IN FAVOR OF IDENTIFYING “BRAIN DEATH” WITH ACTUAL HUMAN DEATH AND ITS CRITIQUE: THE UNIQUE IMPORTANCE OF THE BRAIN AS THE ORGAN NEEDED FOR CONSCIOUS AND RATIONAL ACTIVITY, AND, ACCORDING TO LEE AND GRISEZ, ALSO FOR SENTIENCE (AND FOR THIS ADDITIONAL REASON AS WELL FOR THE RATIONALITY OF THE “RATIONAL ANIMAL”)

*Summary of this argument: The brain is the organ needed for conscious and rational activity, and, according to Lee and Grisez, also for Sentience (and for this additional reason as well for the rationality of the “rational animal”). Therefore, in virtue of its unique importance and indispensability for rational conscious life man can be alive solely of his brain functions. If it irreversibly stops functioning, he is dead as person, even if he may live as “organism” (vegetable).*

The human brain (particularly its upper hemispheres) is truly a stunningly fantastic organ that possesses an immense and quasi “transcendent role” within the central nervous system because it is in some ways used in, and an empirical condition of, even the highest spiritual, rational, and religious acts of man. Nota bene: It does not *cause* knowledge nor free acts nor spiritual emotions and religious acts, but it serves them and is a condition for their activation and therefore possesses a unique closeness to the human spirit and therefrom derives a unique dignity that no other part of the body possesses.<sup>18</sup> Peter Singer and many upper “brain death” (cortical “brain death”) defenders rightly recognize this extraordinary role of the brain for consciousness even though their philosophical anthropology is quite wrong and objectively speaking ultimately leads them to an exaggerated and deeply mistaken idea of the role of the brain for consciousness so as if the brain were the subject and cause of rational and spiritual life.<sup>19</sup> Linked to this evolutionary materialism which confuses the brain with the cause and subject of conscious life is an actualism that reduces the being of the person to performing rational conscious acts, without recognizing that these acts depend on a subject distinct from, and irreducible to, them that continues to exist fully even when it can no longer exercise its faculties because of so-called “brain death”.

### A. A FIRST CRITIQUE OF THIS ARGUMENT: FALSE ACTUALISM AND DISSOLUTION OF PERSONS INTO ACTS

This view, apart from the materialism it entails, also wrongly reduces the ontological status of the *subject* of conscious acts to the conscious experiences as such. Even Kant, who generally speaking denies the substantiality of the human person (I, soul) that underlies all its activities and is presupposed by them and may, by his undermining the objectivity of substance, be one of the major influences that brings about such an actualism, nevertheless, contrary to his general philosophical theory, asserts the untenability of this actualism and the irreducibility of the person to acts in an extraordinary text written after 1781 (publication date of Kant’s *Critique of Pure*

*Reason*).<sup>20</sup>

B. SECOND CRITIQUE OF “BRAIN DEATH” DEFINITIONS AS ENTAILING A  
DENIAL OF THE UNITY OF THE SOURCE OF RATIONAL, SENSITIVE AND  
VEGETATIVE LIFE IN MAN

Thomas Aquinas and the Council of Vienne formulated the teaching that the human rational soul, once it ensouls the human body, is the *single forma corporis* that bestows not only all rational, sensitive and biological (vegetative) life but even being on the human body. Michael Potts has explained well the argument against “brain death” based on this metaphysics of the human person, and has shown excellently the philosophical inconsistency that comes about if a Thomist (of all philosophers) espouses a “brain death” definition of death which totally contradicts the Thomist teaching on the *unity and substantiality of the human soul*.

Even if a strict identity of the source of all partial biological life-processes with the spiritual human soul cannot be maintained in the light of modern biology, organ-explantation, and other data, as I argued elsewhere,<sup>21</sup> still the unity of the human life and human person does not allow such a separation between living human non-persons and human persons as is implied in the “brain death” concept. Not least for this reason of the unity and singleness of the human soul also Shewmon’s earlier and very original (but quite un-Thomistic) gradual human de-ensoulment theory, warmed up by Lee-Grisez, is untenable.<sup>22</sup>

C. THIRD OBJECTION TO THIS ARGUMENT: THE PLASTICITY OF THE BRAIN  
ALLOWS NOT ONLY THAT ONE CEREBRAL HEMISPHERE REPLACES THE  
OTHER BUT THAT EVEN THE BRAINSTEM BE USED FOR BASIC SPECIFIC  
HUMAN ACTS: HENCE “CORTICAL” “BRAIN DEATH” MUST NOT BE  
IDENTIFIED WITH ACTUAL HUMAN DEATH

A third empirically derived objection against the cerebral hemispheres being the absolute bodily condition of the life of human persons was a major ground of Shewmon’s drastic switch of position from cortical “brain death” definitions to a rejection thereof. Based on his careful and scientifically done and published study of two hydranencephalic children, he found that the neurological dogma taught at virtually all medical schools - that *only* the cerebral hemispheres are linked to specifically human life - is wrong.<sup>23</sup> Hence at least the idea of cortical “brain death”, to which this argument from the dignity of the brain as “organ of the spirit” is linked, does not hold up to closer scrutiny.<sup>24</sup> This leads us to a critical examination of a further argument in favor of “brain death”:

### 3. THIRD MAIN (ANTHROPOLOGICAL) ARGUMENT FOR “BRAIN DEATH” AND ITS CRITIQUE: THE THESIS THAT THE BRAIN IS THE ONLY SEAT (OR CONDITION) OF THE PRESENCE OF THE HUMAN SOUL IN THE BODY – THAT THE BRAIN ALONE ULTIMATELY IS THE BODY

*Short statement and explanation of this argument: According to this theory, the only link between body and soul is the brain. Therefore, the destruction of the brain is death because it is simply the destruction of the body, namely of the only part or function of the body that really matters for human life and on which the incarnational mystery of the body-soul unit depends.*

Sir John Eccles and many other authors have held (also Alan Shewmon 1985),<sup>25</sup> this view: you can cut off all parts of the body and just preserve the brain, as the PAS member Professor Robert J. White did with monkeys, and you will still preserve life and the seat of the soul in it.<sup>26</sup> Therefore destruction of the brain means destruction of the body and hence death.

Obviously, this argument is based on the acknowledgement of a true state of affairs: if you admit the trivial fact that you can lose a foot, an arm, etc., without dying, you have to admit a crucial distinction between necessary and unnecessary body-parts or at least body-functions for human life to persist.

But is it really just a functioning brain that binds the soul to the body and is therefore exclusively brain function the condition of human life? Or is it a beating heart? Obviously the heart alone cannot be that incarnational body-part or body-function that is necessary for the body-soul unity, because also a machine can substitute for the heart (even though only imperfectly, as Armour et al. showed),<sup>27</sup> by replacing the pump of the heart and guaranteeing blood circulation? Certainly a non-beating heart does not simply speaking constitute death given that the heart-beat can be stopped and replaced by a machine in a living patient; it can even be stopped without replacement of the heart-pump in cryo-conservation or in some types of surgery done under low temperatures, by techniques of performing brain surgery after having chilled the body and having removed all blood from the brain, i.e. after having arrested circulatory activity for a period of some time.<sup>28</sup> Also spontaneous breathing cannot be that incarnational body-function, because many persons clearly live though their life depends on a ventilator. Thus the brain, or more precisely its function, seems the only candidate left to be that all-important body-part on which the presence of the soul in the body depends.

Against reducing the core of the body just to the brain, however, we advance the following objections:

#### A. ARGUMENT NR 1 AGAINST THE REDUCTION OF THE BODY TO THE BRAIN: RESPIRATION (THAT IS DISTINCT FROM SPONTANEOUS BREATHING) AND BLOOD-CIRCULATION OR TRANSFER OF OXYGEN THROUGH THE BLOOD (RATHER THAN THE PUMP FUNCTIONS OF LUNGS AND HEART) COULD STILL BE MORE IMPORTANT FOR THE PRESENCE OF HUMAN LIFE THAN BRAIN FUNCTIONS:

If we distinguish respiration (that takes place in all organs and cells) from mere breathing, that is not essentially different from pumping air into the lungs through a ventilator, then breathing can be replaced by the ventilator, not respiration; similarly,

the pump of the heart can be replaced by an artificial pump, but not the transfer of oxygen through the blood; but then as long as respiration and/or blood-circulation take place, human life could very well remain present and depend on these more than on brain function; and even when all of these functions are temporarily suspended in cryo-conservation or, in some life-forms in nature, life can still be preserved, as if it were buried and hidden behind all its suspended functions, which requires marvelous techniques of nature to preserve life in such a state.<sup>29</sup> The basic vital respiratory and circular functions continue in “brain dead” patients and there is no proof whatsoever against them being more fundamental conditions of human life and thereby of the body-soul union than brain function.

B. ARGUMENT NO 2: THE BRAIN ARISES LATE IN THE LIFE OF THE HUMAN EMBRYO, BUT THE EMBRYO HAS HUMAN LIFE FROM THE BEGINNING.

Therefore human life does not depend on the brain and the brain cannot be the only and original seat of human life or soul, at least if the human person lives from conception on, and not just 6 weeks later, as adherents of the brain birth theory pretend.<sup>30</sup> Some “brain death” definition defenders, such as Pat Lee, however, point out that the early embryo still has the potency to develop a nervous system, while the brain dead patient has lost this potentiality. But this counter-objection is of little use because the “radical potency” to develop a brain is not the actual brain and function of brain, and if the brain were the seat and condition of the psycho-physical unity and even of the life of the human person, the early embryo would not have human life; the brain birth theorists defend this opinion which contradicts, however, the clear evidence of the identity and life of the human organism from conception on.

C. ARGUMENT NO 3 AGAINST THE REDUCTION OF THE BODY TO THE  
FUNCTIONING BRAIN AS IF IT WERE THE ONLY REAL BODY AND  
“INCARNATING TISSUE”: HEMISPHERECTOMY AND THE EXTRAORDINARY  
PLASTICITY OF THE BRAIN PROVE THAT NEITHER THE DOMINANT NOR THE  
NON-DOMINANT CEREBRAL HEMISPHERE IS THE ‘SEAT OF THE PERSON’.

Since the removal of any of the two cerebral hemispheres, even of the dominant one, in no way eliminates the conscious life of the person, is unnoticeable in newborns, causes in small children, due to the enormous plasticity of the brain, much less dramatic symptoms than a similar lesion in adults, it is evident from this plasticity of the brain with respect to its functions in relation to consciousness that the dominant hemisphere cannot be that part of the body whose preservation or functioning is indispensable for human life; and even less so is the preservation and functioning of the non-dominant one. Hence the mysterious incarnational factor that accounts for the presence of human life cannot be identified with the preservation or functioning of the dominant hemisphere, and even less with those of the non-dominant one. Nor is the combined presence and function of the cerebral hemispheres condition of human life, which material-logically follows from what has been said already: that neither one of them is a condition for human life and even for conscious human life. If one asserts logically correctly that all of this does not prove by the laws of formal logic that it be not necessary for human life that *either* the dominant *or* the non-dominant hemisphere must function to have human life, one seems to fall back into the actualism already criticized and to forget that the substantial being of the human soul can neither be identical with, nor be produced by, brain functions; nor is it plausible, given its substantial character, that the condition or ‘seat’ of the soul in the human body is so loose a thing that it depends on a sort of ‘either or’-function: on either the function of the dominant or on that of the non-dominant cerebral hemisphere, neither one of which as such is necessary for human life and even for human consciousness. It seems much rather another strong argument for the fact that the parts or functions of the body that keep soul and body together must lie deeper and are more essentially connected with the biological life of the body as a whole that clearly persists also in the brain dead patient, who may survive for years.

This argument is greatly strengthened by what we said in 2.C about hydranencephaly and the brainstem assuming many functions of the cerebral hemispheres.

D. ARGUMENT NO 4 AGAINST THE REDUCTION OF THE BODY TO THE BRAIN:  
THE GOAL OF BRAIN-IMPLANTATIONS PURSUED BY NEUROLOGISTS AND  
NEURO-SURGEONS PRESUPPOSES THAT “BRAIN DEATH” IS NOT DEATH OF  
THE PERSON.

The efforts to make brain transplants possible presuppose that the brain-recipient would be the beneficiary of such an operation rather than someone else’s soul entering his body. At present, only partial brain cell implants are possible and clearly those brain implants are beneficial to, and used by, the person who receives them (no transfer of one person or soul from the body of the original ‘brain-owner’ to the body

of the brain-recipient takes place); for this reason, and because complete brain-explantations are not done yet, there is at least no evidence whatsoever that the human and personal soul would stay in the brain or “go with the brain,” or that the brain *is the body*, that is that part of the human body the functioning of which would be the sole condition of human life.

E. ARGUMENT NO 5 AGAINST THE REDUCTION OF THE BODY TO THE BRAIN:  
IF THERE EXISTED SUCH AN ABSOLUTE LINK BETWEEN BRAIN ACTIVITY  
AND PRESENCE OF HUMAN LIFE IN THE BODY, WHY WOULD THEN  
TEMPORARY DYSFUNCTION OF THE BRAIN NOT RESULT IN DEATH OR BE  
BIOLOGICAL DEATH?

Moreover, we must distinguish two possible ideas: either the *brain function* or just the existence of the brain in the body would, according to this view, be conditions of human life. If one regards the *brain function*, however, as the real body on which the presence of the soul in the human being depends, why does the person not die if this function is temporarily suspended as in brain operations under low temperatures and after having removed all blood flow and all functions of the brain?

F. ARGUMENT NO 6 AGAINST THE REDUCTION OF THE BODY TO THE BRAIN:  
‘BRAIN DEATH’ IS NOT COMPLETE BRAIN DESTRUCTION AND THE BRAIN  
OF THE ‘BRAIN-DEAD’ CONTINUES TO EXIST AND SHOWS SOME  
BIOLOGICAL FUNCTIONS.

If one declares not the brain-functioning but the organ of the brain the condition of the presence of the soul in the body and hence of specifically human life, we may reply: ‘brain death’ is not a complete brain destruction or complete brain transfer, but the brain of the ‘brain-dead’ continues to exist and to be subject to at least some biological functions. Therefore a body without *any brain* (as in decapitation) and the state of so-called “brain death” in which an unknown number of functions persist (which is the reason why some countries have refused to use a “whole-brain death” criterion because this is an empirically unverifiable notion) must not be equated. If it is not the brain function, however, but the *organ* of the brain that is decisive for the presence of human life, this brain also exists in the brain dead.

CONCLUSION

The mysterious link between body and soul lies deeper and there is no evidence that this link, the core of the human body and condition of human life and of the presence of the human soul in the body can, in the fashion proposed by the third argument in favor of “brain death”, be localized (only) in the brain such that a permanent dysfunction of the brain would mean death.



#### 4. GRISEZ-LEE'S ARGUMENT IN FAVOR OF "BRAIN DEATH" BEING ACTUAL HUMAN DEATH: THE RADICAL LOSS OF THE CAPACITY FOR SENTIENCE AND FOR CONSCIOUSNESS ARGUMENT RCS/RCC AND A GRADUAL DE-ENSOULMENT ARGUMENT

*This objection does not claim, like the second one, that the actual possession of rational consciousness or of sentience is necessary to be a living human person, but defends the thesis that personhood depends on the capacity in principle (the radical capacity) to acquire sentience, without which rational human life is, according to them, impossible. They furthermore claim, quite dogmatically, as Professor Austriaco and other scientists and a number of anesthetists sustain with excellent arguments,<sup>31</sup> that the "brain dead" patients lack both actual sentience and radically lack the capacity to develop it. Therefore they are neither human beings nor animals but the integrated life they possess, (which they accept as proven by D. Alan Shewmon), is only that of a vegetable.*

In the following, I want to show chiefly that the identification of so-called "brain death" with actual human death, both in general and in the form in which Lee-Grisez present it, depends on several, in my opinion, general anthropological assumptions, some of which are erroneous, others misleading. Each of these philosophical assumptions makes several sub-assumptions, proposed specifically by Lee and Grisez, assumptions some of which also D. Alan Shewmon made in his 1985 paper but later revoked. What are these assumptions?

#### A. FIRST OBJECTION: A FALSE CONCEPTION OF MAN BEING A “RATIONAL ANIMAL” AT THE ROOT OF THE RCS ARGUMENT

The Aristotelian-Thomistic definition of human nature as “*animal rationale*” is not incorrect but, quite generally speaking, a misleading definition of man. In Lee-Grisez’s understanding, however, it even turns into a serious anthropological error. For it is conceived by them in somewhat materialistic and actualistic terms, as if *the rational nature and personhood of man* could come and go during the life of the human organism, and as if not only actual thinking would depend on actual sentience, and the potentiality to think would depend on the actual potentiality to develop sentience, but being a person and the rational nature of man itself would depend on an empirically given potentiality for sense perception and, consequently, for thought (which presupposes, according to Grisez and Lee, sentience).

Both sentience and thought, as well as the capacity to develop them, would, in their turn, depend on the brain, such that a “brain dead” individual, although organically alive, would have radically lost these capacities and, with them, his rational nature. Such a living human organism would hence no longer be a human nor an animal, but, being in principle incapable of sentience and thought, a vegetable such as a salad. From this they draw the conclusion that the “brain dead” individual, though possessing “integrated life,” as Shewmon has shown, and hence being a living organism, possesses less dignity than an animal, such that he can be used freely as organ donor, on a par with a salad whose leafs we can freely cut off even if the salad dies in the process.

I will try to show that this argument is a) based on false premises due to the false understanding of “rational animal,” and b) uses invalid arguments fraught with various quadruplications of terms.

The definition of man through the proximate genus “animal”, with the addition of rationality,<sup>32</sup> is, if correctly understood, not a false definition of man, but a very deficient one. In order to make sense, it cannot use the very abstract notion of animal (zoon) as living being, for in that sense also angels and God are rational living beings (animals, as the Apocalypse calls angels) and the definition would not be one of man but of persons as such.<sup>33</sup> Nor can the Aristotelian-Thomistic definition of man use “animal” in the normal sense of animals in contradistinction to men and to plants, because man is not such. Hence this definition uses the term “animal” in a special type of abstract sense that, as such, does not exist in reality as a real genus, but rather is an “artificial genus” that we encounter in reality only in two entirely different senses - either in the sense in which human persons are “animals” in the sense of being “persons *in carne*,” or in the equivocal sense in which all species and subspecies of animals literally speaking are beings of the same highest genus “animal”.

In this abstract and ambiguous sense, “animal” is understood as a sentient and in some sense conscious organic being that is endowed with those faculties that we find, at closer consideration only analogously, both in man and in animals, namely a being capable of sense perception, sentience (consciousness), memory, spontaneous locomotion, etc. To this abstractly conceived genus of “animal,” then, the specific difference of rationality is added, to distinguish man from animals. Now what is the

problem? Is not this true?

The problem is twofold: "Rational nature" is conceived here as a mere added feature of man's fundamental generic nature of "animal." It defines the proximate genus to which man belongs, in terms of an animal or "sentient organism". This definition fails to see that man does not fall under the same genus animal to which dogs, elephants, and lions belong. He is in a sense more different from them than they from stones. Only in a very abstract sense can one single out what man shares with animals and define man in terms of an animal, forgetting as it were that he does not truly belong to the same genus. 2) The second problem is that this definition sees the basic nature of man as that in man which unites us with animals, instead of that which unites us with angels and makes us images of God. In reality, however, man is *primarily* a person and what is most essential about him is what he shares with angels, namely being a person. Man is not properly an animal with the specific difference of rationality, but he is primarily a person, with the specific difference of having a body and thereby of course sharing many features with animals.

If man is a *persona-in-carne*, this has many consequences: The life of the human person is not properly speaking generated by the parents but is primarily the life of man's immaterial, spiritual, rational, substantial, unique soul that has life in itself that it will keep also after death in its state of separation from the body, but that is distinguished from an angel precisely by man being a *person-in-carne*, by having a body and by the single spiritual also soul animating the body, with whose existence the soul begins to exist, but can only come to be by an immediate creation through God.

In this way the human spiritual person differs from other persons: It is an individual substance of rational nature, but at the same time a spiritual, rational soul. As such, it is intimately connected with the body and is even "form" of the body. The term "form" here as well has a very unique sense. It is neither the external shape nor the interior structure of the body, nor is it, as Aristotle calls it, "something in and for a body," as the plant soul,<sup>34</sup> nor something individualized only through the body.<sup>35</sup> Rather, in this fourth sense of "form," the human soul exists in itself and is in itself an individual and most unique spiritual substance that can exist separated from the body, and its acts, life and happiness do not have the primary role of animating a body, being not only "in it" but also "for it". No, the human soul is linked with the body in an entirely new, profound and mysterious sense from the beginning of human life and makes it a human body precisely because it is not primarily form of a body. Rather, man is primarily a person, only a little lower than the angels, and his personhood is rooted primarily in the soul, not in the brain (as a matter of fact our brain is 98% similar to that of a gorilla). Precisely because the human soul, in its deepest acts, for example of love or praise of God, is not *for the body*, it bestows the humanness and spiritual tone on the body that, without it, would just be a mass of material organs and tissues or an animal body.<sup>36</sup>

This distinction between four meanings of "form" is closely linked to another one between many senses of true and false "dualism" to which Cardinal Ratzinger/Pope Benedict XVI referred several times as a valuable contribution to philosophical anthropology.<sup>37</sup> Neither evolution, nor parental generation, nor the cells of the body, nor the gametes, nor the brain or any organ of the body, can account for the human person, but solely a spiritual rational soul that cannot be caused by any secondary

cause but only by an immediate divine act of creation from nothing. This soul possesses life in itself, immortal life, but is from the very first moment on not only spirit, but also a soul, i.e., it animates a body, is mysteriously dwelling in a body as its form that makes the tiniest cell of the just conceived human being a human body and makes the embryo a full human person.

Thus the life of the human being in no way depends on a brain, which the just conceived embryo does not have, nor on any brain function. It does not depend either on an integrated unity of organs and functions of organs which the human person does not have at the beginning of his earthly life.

Of course, in virtue of the profound body-soul unity of man, human life depends in a certain way on the integrated life of at least one bodily cell, but it does not consist in the mere biological life of that cell nor of the many cells and organs which will eventually form, nor in the integration and interaction of these cells and organs. It consists in the life of a single substantial and spiritual soul that is created (as Catholics believe, at the latest since the declaration of the dogma of the *Immaculate Conception* and *Evangelium Vitae*) at the moment of conception and united with the body as such, and which persists as long as the human body as such shows signs of vegetative life which are simultaneously a sign that the single human soul is united to the body and that therefore the human being lives.

Certainly, the personhood of the embryo does not manifest itself at the moment of conception but it is nonetheless mysteriously present in the embryo from the first moment on. How do we know this? We can know this with some degree of certainty through philosophical insights and arguments, and, at least since the declaration of the Dogma of the Immaculate Conception and *Evangelium Vitae*, with certainty from Catholic faith. Let us first turn to what we know about the dwelling of the soul in the human body from conception on by means of human reason.

From reason, we know the being a person of every human being from conception to natural death, with some degree of certainty, by a kind of backward-directed proof that considers the characteristics of man upon awakening to conscious rational life and understanding that its subject is the same identical organic human being that lives from the fertilization of *the ovum* on till natural death.

Thomas Aquinas, unlike his master Albert the Great, failed to understand this identity of the human being from conception on, espousing the Aristotelian notion of delayed ensoulment, according to which the rational soul would be infused into the human body (that first would have a vegetative, then a sensitive, and only after a few weeks' time a rational soul).

This theory denies the real identity of the human being from conception on, partly because of the very vague biology that ignored the human genome as a marvelous language of God that makes that the fertilized ovum is a human body from the beginning.<sup>38</sup> The Thomistic theory of delayed ensoulment conceived the early embryo at conception as a kind of mixture of menstrual blood and semen and as an unformed mass incapable of receiving any soul except a purely nutritive, vegetative one. But we know through a reflection on recent biology and the human genome as a marvelous language in which all congenital future properties of a unique human being are stored

that the body of the conceived child is far from an unformed mass incapable and unworthy of receiving a spiritual soul. Rather it is a potentially fully present unique human body.

At the same time, the human genome can only indicate but not at all explain the uniqueness of human life. For this language of the human genome is also stored in each cell in the human body, in each cell separated from the human body, and in each cell of a dead person at least for a short while. Therefore the human genome, in contrast to the human person, is not really unique but multiplied innumerable times in each body cell. It resembles more a script or plan for an individual human being.

Moreover, the human genome serves nothing without the presence of human life that is from the beginning the life of a rational soul, of a single human soul that animates the body in a most mysterious way, bestowing on it being, vegetative, sensitive and rational life at a time when sentient and rational life are of course still dormant and unawakened.<sup>39</sup>

#### B. A "POTENCY/CAPACITY" BASED ACTUALISTIC ERROR ABOUT PERSONHOOD (RATIONAL NATURE) AT THE ROOT OF GRISEZ-LEE'S THESIS ON "BRAIN DEATH"

There is a second metaphysical assumption in the Grisez-Lee defense of brain death, that is rooted in overlooking 1) that the human person is a *substance of rational nature*, and hence the rationality of its nature does not depend on the actual awakening of the human person to rational consciousness nor on the actual ability to think rationally,<sup>40</sup> but only on the essence and fundamental powers or centers that are rooted in the spiritual substance of persons. Even less does the human person's rational *nature* depend on brain function, an empirical condition on which only the exercise of rational nature depends in different ways, but by no means rational nature itself. Hence, if for some brain damage or other circumstances the person is unable to *use* his intellect and free will, or even to awaken to rational conscious life, he *still fully remains a substance of rational nature, a person*. Therefore, as long as a man lives, he deserves the full respect owed to a person in virtue of his ontological and inalienable dignity that proceeds intelligibly from the person as "an individual substance of rational nature."

Lee-Grisez defend a kind of actualistic notion of the person that implies that the person could cease to exist upon losing the capacity of ever using his or her rational faculties, an ability that depends, in the present life, on brain activity. But this brain activity neither *causes the acts of intellect and will, nor is it a condition of the substantial being and rational nature of the soul and of the person, nor of his rational faculties that are rooted in the soul, not in the brain*. Once this is understood and the error of an actualistic and materialist/physiological notion of the person refuted, the argument of Grisez-Lee for "brain death" being actual death of the person wholly collapses.

Lee-Grisez reject, in this respect good Thomists, a purely actualistic reduction of properly human life to rational consciousness and to the actual ability to think; they reject likewise a reduction of the person to a lived center of conscious acts as we find it in Max Scheler. It is very strange, however, that Thomists, like Lee and Grisez, espouse this kind of potency-based actualism, because it is most foreign to Thomist metaphysics which never considered the *rational nature of the human person* brain

dependent or as something a living human being could ever lose once he has it. Lee-Grisez defend a kind of paradoxical “potentiality-based actualism”. Their assumption that living human beings, i.e., “brain dead” patients, whose integrated life they do not question, are neither animals nor persons, but vegetables, is based on a twofold confusion between:

- 1) Being a person and the “radical capacity” of acting as person,<sup>41</sup> and between
- 2) Rational faculties and the capacity of using them, a distinction inseparable from Thomist philosophy and drawn by John Crosby very clearly several decades ago.<sup>42</sup>

Underlying this insufficient clarity and the mentioned insufficiency of the definition of the human person is another error.

### C. THE FALSE ASSUMPTION OF THE PLURALITY OF SOULS AND OF GRADUAL DE-ENSOULMENT

A fourth false and for a Thomist astonishing assumption is the assumption of a plurality of souls in man and of a gradual de-ensoulment that leaves in the end a merely vegetative soul in the living human body, reducing a human person to a kind of pure vegetable.<sup>43</sup> Yes, it is true that Thomas Aquinas, following Aristotle, teaches a gradual *ensoulment* of the human being that first would be similar to a vegetable, then to an animal, finally receiving a spiritual soul. But Thomas rejects any coexistence of 3 souls in man and clearly holds that once man has a rational soul, this rational soul is the only one he has got and that assumes the functions of the vegetative and sentient soul which are replaced by it, their operations being taken on by the single rational soul of man. Thus, according to Thomism and its false gradual ensoulment theory the vegetative and sentient souls do not continue to exist side by side with the rational soul. For reasons to be mentioned, also Thomas himself would today entirely reject the gradual ensoulment theory of the human embryo.

Pat Lee, however, warms up the delayed ensoulment theory, adds to it a matching gradual de-ensoulment theory (which Thomas entirely rejected), and presents this ontological monstrosity as if it were a clear proof of brain death being the actual death of man.

A critique of this position first requires a philosophical refutation of a multiple soul theory in man. It would have to base itself on the experienced evidence that the “I” that feels pain and the “I” that thinks or wills, are one and the same “I”. It is indeed evident from our conscious experience that we do not have one spirit and rational soul and another soul who feels hunger, thirst, or pain and pleasure. The brevity of this essay forbids to add other philosophical arguments against the multiple soul and late ensoulment theories.

Even more clearly than on purely rational grounds, the theory of gradual ensoulment ought to be rejected by any Catholic philosopher, such as Lee, in virtue of the unity of the human soul declared as dogma in the council of Vienne. In light of this it is particularly surprising to find Lee resuscitate the idea proposed by D. Alan Shewmon in his 1985 paper,<sup>44</sup> long ago revoked by him, of a gradual de-ensoulment

of man, so as if a living human body could go back from the state of a person (possessing a rational soul) to being an animal whose spiritual soul left the body, and finally to being a vegetable.

This horror-anthropology presupposes either that man has all along three souls that can gradually leave the body: first the rational soul would leave and what remains would be an animal just like a dog; then the animal soul would leave and what remains would be a vegetable like a salad. Or, if one rejected this three soul theory, one would have to assume that the rational soul leaves the body upon brain death, and a new animal soul (that according to Thomas Aquinas was destroyed upon the creation of the rational soul which assumed its function in man) is recreated, and upon its death the vegetative soul of man that according to Aquinas existed at the beginning but was substituted by the single spiritual soul upon the creation of the latter, would be recreated.

I think both of these options Lee has to defend his view are untenable metaphysical speculations without any foundation in reality. But if this is so, and if man has one and only one spiritual soul that is the source of his life, then it is absolutely impossible that, as Lee-Grisez hold, after "brain death" only a vegetative soul remains. Rather, as long as there is life in the "brain dead" human body as such, which Lee-Grisez rightly uphold, the single rational and spiritual soul remains united to the body. It follows logically that the "brain dead" individual who lives, as Lee-Grisez admit, is not dead.



## II) A THEOLOGICAL ARGUMENT AGAINST THE DELAYED ENSOULMENT THEORY OF THOMAS AQUINAS

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Besides, Catholics recognize the falsity of the delayed ensoulment theory also in the light of Church teaching (especially of *the dogma of the Immaculate conception* in 1854 and of *Evangelium Vitae* 1995 of John Paul II that declares in a quasi-dogmatic way, invoking solemnly the succession of St. Peter, that the human being has to be treated as a person from conception on). Thomas correctly argued that from the truth of his late ensoulment theory it would follow that the Virgin Mary had only a plant soul at conception and therefore, since a rational soul is presupposed for original sin and for being freed from it, she could not have been immaculately conceived. Therefore, this great and logically thinking doctor Angelicus would no doubt, from the time of the declaration of the dogma of the Immaculate Conception on, have rejected his teaching. The same is true of the quasi-dogmatic teaching of St. John Paul II about the personhood of man from conception on.

Hence, from both reason and faith a Catholic philosopher has to reject completely the idea of Aristotle and Thomas Aquinas of the delayed ensoulment and of the three souls that succeed each other in the human development. And even more he has to reject the (completely unthomistic) theory of gradual de-ensoulment that is presupposed by Grisez and Lee and would, above and beyond its inherent falsity, lead to the same horrors decried by Hans Jonas as consequences of the “brain death” definition of human death.<sup>45</sup>

### D. LEE’S ARGUMENT THAT A “BRAIN DEAD” INDIVIDUAL CANNOT BE A PERSON BECAUSE HE LACKS RADICALLY ANY CAPACITY OF DEVELOPING SENTIENCE

Further, Grisez and Lee argue that a “brain dead” individual cannot be a person because he lacks sentience that they declare wholly dependent upon brain activity. Therefore, after having suffered “brain death”, notwithstanding their continuing to live as vegetating organisms, live human beings would be some kind of salad heads. The “brain dead” human being would be neither a person nor an animal. This argument is based, on the one hand, on the dogmatic declaration that the “brain dead” individual cannot have any sentience. This thesis is contrary to the strong evidences of “brain dead” patients feeling intense pain upon the extraction of their organs. The evidence of these pains motivated some famous anesthetists who assisted in organ transplantations to abandon their belief in the death of the “brain dead” because their expression of pain could not be explained as a mere physiological “Lazarus-reflex” (apart from the fact that also reflexes are a sign of life). This dogmatically espoused thesis of Lee-Grisez is also very ably refuted in Austriaco’s paper from an experimental biological standpoint. Apart from the fact that the criteria for “brain death” are based on “brain-stem death” because total “brain death” (which Lee-Grisez demand) cannot be empirically verified, and the dogmatic thesis of Lee that only an individual organic being with an intact brain can possibly feel pain, this thesis is dependent on three other dogmatically presented (and I believe false) assumptions:

- a) On the assumption that nothing is in the intellect that was not previously in the senses; of the many meanings of this thesis we can here just note and admit, at least

for the argument's sake, that human experience and knowledge begins in sense-perception. Admitting this truth, there is no need to criticize here the many false senses of this statement. Many ways are open to the intellect to proceed from this starting point and nothing forbids that we can continue to think once our radical capacity for sentience would be destroyed.

- b) On the assumption that a person who once had sense perceptions and thereafter thought, cannot have thought any longer if his capacity of sentience radically ended. Because this thesis depends on the complex epistemological issues that surround external and internal perception, and its refutation is not necessary for our purpose, we can safely prescind here from investigating this issue any further.
- c) The third assumption is the decisive and most clearly false one: namely that a living person who cannot actualize his faculty of sense perception and (allegedly therefore) his faculty of thinking, is no longer a person (an individual, living substance of rational nature). According to this assumption he who has radically lost the capacity of perceiving through the senses, has lost the faculty of thinking. If he has radically lost the capacity to think, he is not a person. "Brain death" means according to them the total loss of sentience, and consequently of thinking; and hence the "brain dead" individual is not a person. This third assumption locates metaphysically the faculty of reason, the rational nature and the personhood of man on the level of the brain and claims that it is dependent on brain functionality. This flatly contradicts the indubitable evidence that the *being, life, radical capacity of sentience and above all the rational nature* of the person is rooted in the spiritual soul of man, not in the body.

Only because of this deeply erroneous philosophical anthropology and metaphysics of the person that he implies can Lee claim that the loss of all abilities of actual and potential rational thinking destroys both the rational faculties themselves and kills the person who has them.

## 5. IN DUBIO PRO VITA

Even if the medical condition of 'brain death' were clearly defined and if the presence of this state in the concrete case were established beyond the shadow of a doubt (neither one of which is the case), the actual death of a man because of this condition would not have been verified concretely. This is simply the consequence of the discussed lack of adequate theoretical reasons to prove that the medical condition designated as 'brain death' coincides with actual death, i.e., whether the death of the organ brain is actual human death.<sup>46</sup>

The only cogent reason for this assumption lies in a materialist philosophy of the mind, according to which the functioning of the cerebral hemispheres is identical with the person or at least the absolutely necessary condition for being a person. But this can be proven false.<sup>47</sup>

It is clear that in our moral life we do not need an absolute mathematical or metaphysical evidence and certitude in order to act. It is enough that we are 'morally certain' about morally relevant facts (such as the life or death of someone) or about the moral permissibility of an act.

This so-called 'moral certainty' can be purely subjective: our own 'feeling certain' – for good or bad reasons – that we are allowed to commit an act or that the objective morally relevant factors are such and such. This subjective moral certainty can at most – when it is the fruit of a sincere search for the truth – provide a purely subjective moral justification for an act. Of course, someone may be morally certain in this sense that 'brain death' is actual death and that organ-explantations from 'brain-dead' persons are permitted. The existence of such subjective moral certainty does nothing but justify or excuse an act subjectively. It can exist even with respect to obviously immoral acts such as blood vengeance or even genocide.

'Moral certainty' can also refer to an objectively well-founded conviction which, while being less than indubitably certain, provides objectively a *moral* justification for a certain action even if the underlying conviction is in fact false. If this moral certainty does not exist, then an action (such as harvesting organs from 'brain-dead' persons or shooting at a moving object which might be a human) may be morally wrong even if the conviction itself is correct. This objective 'moral certainty', – in contradistinction to the purely subjective and ill-founded one – is required for the objective moral justification of an action (e.g., by the moral philosopher). Therefore, even if a brain-dead 'living corpse' were *in fact* nothing but an organ bank, this hypothesis would be probable at best, and in virtue of this ignorance we are obliged to treat this alleged 'organ bank' as possibly a living person, as Jonas points out.

Recognizing the distinction between mathematical-metaphysical certainty and moral certainty, we must say: We do not possess any moral certainty, not even a moral probability, that "brain death" is actually death. As a matter of fact, both the theoretical philosophical arguments sketched above and the practical difficulties of diagnosis of 'brain death' prove that no well-founded moral certainty as to the actual death of 'brain-dead' individuals is available. Also, uncertain philosophical opinions about the only relevant meaning of "brain death" – namely: actual death of a human being in

virtue of irreversible breakdown of brain-function – can never provide a moral justification for actions which constitute manslaughter if the victim of such actions is still alive. We have even certainty of the opposite.

Even if it *were objectively true* that “brain death” is really death, it would still not be legitimate to act on this assumption because we do not know with any objective *moral certainty*. Moreover, since many acts performed on the diagnosis of “brain death”, namely the extraction of vital organs, would cause death and thus constitute manslaughter or murder, we are *absolutely forbidden to perform them*.

One might argue against what we have said thus far by remarking that our position presupposes a Cartesian quest for indubitable certainty in the sphere of human actions, a mathematical certainty which indeed is absent with respect to the real death of “brain dead” individuals. But this objection fails and is based on an untrue premise. We do not demand such an indubitable certainty: all that is required for political and moral actions that risk killing persons is some lesser, some practical certainty. It is enough to be ‘morally’ or ‘practically’ certain that certain facts exist and that they have certain morally relevant or moral natures. And precisely this certainty is missing (as even those have to admit who remain unconvinced by the cogence of the arguments that “brain death” is *not* actual human death).

Engelhardt admits<sup>48</sup> that the diagnosis of ‘brain death’ is indeed uncertain. He speaks, however – in what appears to be too light a tone – of „living and dying with less than absolute certainty,“ belittling the tremendous negative importance of the fact of eventually false concrete diagnoses of “brain death” leading to manslaughter by organ-explantations. He (Engelhardt, 1986, p. 207) suggests that it is of little interest whether the person still lives because „a possible survivor with severe brain damage may not have a life worth living.“ Here the real possibility that organ-explantations involve manslaughter is openly admitted. And here, in the thesis that a “life not worth living” permits us to kill a living but worthlessly living patient we are again confronted with the ugly face of euthanasia hidden in the “brain death” debate.

There are certain actions which we *must not commit when we do not possess moral certainty*, such as actions which will kill a person if he or she is not dead. If it turns out impossible to reach moral certainty<sup>49</sup> about the death of ‘brain-dead’ individuals, a position which acknowledges the degree of moral certainty required by the specific nature of a given action demands that we refrain from actions which risk killing a human person.

To commit an action which risks killing a person takes the highest degree of moral certainty, which we definitely do not possess. And such a certainty is not only completely absent in the case of “brain death” but all the evidence points in the opposite direction. Therefore even if the defenders of the “brain death” definitions were theoretically right, they would still be morally wrong.<sup>50</sup>

Many laws forbid absolutely the killing of a being of which we have at least no moral certainty in excluding that he might be a living human being. All these laws show that the mere probability and plausibility of there being a human person present is sufficient to forbid morally and legally to kill such a being. We propose to apply the principle underlying these laws to the issue of brain-dead persons who are biologically alive.

Even if there could be any justified doubt (which I do not believe to exist) whether the brain dead individual is a living human being or not – **in dubio pro vivo!** (In the case of doubt we must not act upon the assumption of death and risk killing a donor of an unpaired vital organ)!

It is in other words ethically intolerable to explant unpaired vital organs from probably, if not certainly, living humans.

#### 6. COIMBRA'S COGENT SCIENTIFIC AND ETHICAL ARGUMENT AGAINST APPLYING "BRAIN DEATH" CRITERIA AND DEFINITIONS: "KILLING PERSONS IN ORDER TO TEST WHETHER THEY ARE DEAD" AS VIOLATION OF HIPPOCRATIC OATH

*A highly original and self-sufficient argument that is likewise wholly independent from whether "brain death" is actual human death or not was developed by the neurologist and medical researcher Cicero Coimbra.*

*The verification and confirmation of "brain death" (even of mere brainstem death) has been proven immoral: because it requires, if conscientiously done, an apnea test,<sup>51</sup> but an apnea-test has been shown by Cicero Coimbra et al. to cause frequently actual death.*

This is Coimbra's argument for the extended summary of which I use this distinguished neurologist's and research Professor's own abstract of one of his excellent papers on this question:<sup>52</sup>

*"An unknown percentage (possibly more than 50%) of patients with brain damage and edema leading to severe intracranial hypertension is actually under global ischemic penumbra (a potentially reversible neurological condition) by the time they undergo apnea for the diagnosis of "brain death" or brain stem death. This is, in fact, a mathematically predictable physical certainty, for the brain circulation cannot reach the lowest values (capable of triggering neuronal necrosis) in patients with progressive intracranial hypertension without crossing the range of ischemic penumbra.*

*In those patients, apnea testing causes rather than diagnoses death by inducing irreversible intracranial circulatory collapse or even cardiac arrest. Alternatively, timely hypothermia may rescue these patients to normal or near normal daily life, particularly if associated with other novel therapeutic modalities and preventive measures against secondary brain damage.*

*Ongoing progress in neuroscience is establishing new frontiers between the recoverable and unrecoverable brain, unraveling the mechanisms involved in full neurological recovery from apparently hopeless states like that of Anne Green – a 22-year old maid resuscitated by Thomas Willis (the founder of clinical neuroscience and coiner of the term neurology) after being hanged for half an hour on December 14, 1650, in Oxford, England."*

*This review presents the panorama of the highly conflicting interests and motivations surrounding the diagnosis of "brain death" and harvesting of unpaired vital organs on one side, and the efforts to recover the comatose victim of severe brain injury on the other side. Those who support or perform the current "diagnostic" protocols while neglecting or avoiding a transparent scientific discussion about these issues bear undeniable responsibilities towards those defenseless comatose patients who undergo apnea testing as a replacement for proper treatment."*

This very seriously researched study constitutes a totally sufficient ethical argument against applying "brain death" criteria for organ-explantation. Like the ethical arguments from *in dubio pro vita*, but for an entirely different reason, it is wholly independent of any opinion about whether "brain death" is or is not actual death of a person.

Ignoring Coimbra's argument that applies equally if "brain death" actually was human death, is proof of an ideological, immoral and wrongly purely pragmatic pursuit of organ-explantation from brain dead patients without proper regard for their dignity and life.

### OBJECTION TO THE TRANSFORMATION OF THE MYSTERY OF THE MOMENT OF DEATH INTO A 'CALCULABLE PROBLEM'

"Brain death" fulfills a set of biological and medical criteria which, as soon as they are established, lead to the assumption of death. The consecutive performance of explantations presupposes that it can be firmly established and 'calculated' that death has already occurred – prior to the setting in of the phenomena of natural death. For only if this is possible may one assume that one does not risk killing a living person by explantation of his organs, while his body is still living.

Death in the classical sense does not pose these problems. It does not just involve irreversible cardio-pulmonary arrest and cerebral dysfunction but is accompanied by many other well-nigh indubitable signs: from the cessation of all vital functions to the deathly pallor and from the *rigor mortis* of the corpse to the actual decomposition of the body.

To declare death when the first undoubted marks of death set in, for example when the heart stands still and one cannot resuscitate its activity, is not presumptuous. Yet to act or to dissect a corpse on the first declaration of clinical death is presumptuous because of the mystery when exactly the dissolution of the body-soul unit occurs. It is much more pretentious, however, to determine the occurrence of death by means of a mere set of scientific facts and theories about the portion of body-tissue which contains the person, while the body as a whole, the body qua organism, still lives. Since human death, by its own objective essence, consists in the mystery of the end of that union of life, soul and body which constitutes personal human life, it becomes quite unjustifiable to declare, in terms of various "brain death" criteria of external and

philosophically irrelevant nature, that the death of the individual who is biologically alive has occurred prior to the occurrence of irreversible clinical death.

In the past, even after a person was declared clinically dead, it was customary not to bury him nor to dissect him immediately, for the reason that – in view of the mystery surrounding the exact moment of death – there is a certain risk of taking apparent death for real death or to lack respect for a human person who might still be alive and only in the process of dying instead of being already dead. There is likewise the custom in the Catholic and in the Orthodox Church to allow the last rites, which are permitted for living persons only (i.e., for the dying), for some minutes after the first signs of ‘clinical death’. This was done undoubtedly for the reason that it is not immediately clear whether the mystery of death itself takes place only sometime after the symptoms of clinical death have occurred.

In the light such traditions which confess man’s not knowing the exact moment of death, the situation in which a transplantation team jumps on the biologically live ‘warm corpse’ ought to strike any civilized man as an incredible barbarism. Human ignorance with regard to when the mysterious moment of death occurs constitutes another reason to reject the definition of “brain death”.

### III. THE PRIMACY OF THE MORAL QUESTION OVER UTILITY AND A RETURN TO THE HIPPOCRATIC OATH

The medical ethical and economic consequences of recognizing that “brain death” which serves as grounds to extract organs and save many lives by means of them are great and hard for many, and I feel sorry upon thinking about all persons – among whom could be my closest relatives or friends – who will die if the truth about “brain death” not being actual death becomes again the foundation of medical action, as I would hope.

But just as the immense utility of the hearts of newborn babies or even the blessing of these hearts for millions of organ recipients, or the usefulness of organs of racially different persons, can never justify the crime of killing them, so the killing of living “brain-dead” persons can never be justified by the good and life-saving use of their organs!

The good, and even the best, use of organs *never* justifies defining living humans as dead or killing them.

The blackness of the atrocious misdeed committed if mothers (intent on aborting their babies) started to extract and sell their babies’ organs to fill all organ needs could not be made good by thousands of pictures of smiling heart-recipients! *Primum non nocere! The first duty of the physician is not to inflict harm!*

Medicine would lose its ethos and moral nobility if considerations of utility of organs for third parties or economic advantages were allowed to take precedence over the truth that “brain death” is not actual death.



And even if objectively speaking “brain death” were actual death, we would not know this for certain but would know two truths for certain that are enough to abandon the use of “brain death” criteria for extracting organs from patients believed to be “brain dead”:

- 1) The legally and ethically necessary *apnea-test* used to confirm brain death, *kills some patients who are not “brain-dead”* and
- 2) *In dubio pro vita!*

If such pragmatic considerations were to guide and to continue to guide medical practice – and this not only surreptitiously but openly – this would constitute a radical break with some of the highest principles of medical ethics.

Moreover, to give up “brain death” determination and testing of death would not be a grandiose ethical deed let alone a specifically Christian or other religious act that could not be proposed to a secular medical and political community, but a simple return to Hippocratic medicine and to the ethical principles of his “pagan medical ethics” on which medicine is built and which are part of the *Hippocratic Oath* that goes back to that famous ancient physician who belonged to the circle of Socrates’ friends and students:

*“I swear ... that....I will use treatment to help the sick according to my ability and judgment, but never with a view to injury and wrong-doing. Neither will I administer a poison to anybody when asked to do so, nor will I suggest such a course.*

*Similarly, I will not give to a woman an instrument to cause abortion.... Into whatsoever houses I enter, I will enter to help the sick, and I will abstain from all intentional wrong-doing and harm.”*

#### IV. CONCLUSION: CETERUM CENSEO DEFINITIONEM MORTIS CELEBRALIS ESSE DELENDAM

Thus we are led to the conclusion that the “brain death” definition of human death ought to be rejected by any legal and medical code and that its introduction by many states lacks a sufficient philosophical and ethical basis. In the light of philosophical considerations about life and death the criterion of “brain death” must be dismissed as an aberrant definition of death and medical praxis built on it as a deviation from firm and universally knowable medical ethics.

I realize that the derivation of legal and ethical norms from reason contradicts Engelhardt’s opinions about a public ethics for ‘moral strangers’ – “individuals who do not participate in a common moral vision” (Engelhardt, 1989) – when they meet in a pluralistic, non-coercive society. Engelhardt would say that the preceding reflections propose outdated ethical standards, which he labels as ‘modern’ public standards born from the spirit of enlightenment and from a rationalist philosophy which believed in the universal appeal of a reason capable of forming public social and political life. Such a spirit looked for rational social, ethical and legal standards which seek to recover

universal values, rights, or ontological truths by means of human reason. The hopeless postmodern relativism and pluralism of our present society, however, would, according to him, render dreams of this sort obsolete, so that we should develop postmodern standards in a pluralist society, which – “since we cannot derive moral authority from God or reason”<sup>53</sup> – „can only be derived from the agreement of the individuals who join in a moral undertaking”.<sup>54</sup>

This position, however, is neither logically consistent nor plausible nor compatible with rational evidence. It is inconsistent because it is obvious that Engelhardt accepts quite a few principles as rational and reasonable with which not everyone agrees: namely all those principles which he defends as ground-rules of an ethics in a pluralist society and which happen to coincide with the most liberal standards of a non-coercive, libertarian American society. They contain such values as ‘non-coerciveness’, ‘mutual respect’, liberty as absence of attempts to impose private morals on public society, etc. Other ethical tenets of ‘the public ethics for moral strangers’ include a theory of justification of abortion and infanticide. Each of these elements contains a great number of further presuppositions of ethics, epistemology, ontology, and legal philosophy. On each of these many individuals do disagree, even though a majority of Americans today might give their assent to most of them. Hardly any of these norms is object of universal consensus or assent, some – for example Engelhardt’s ideas about infanticide – not even of majority opinion. Thus either he has to claim that these principles derive their justification from ‘reason’ or he has to abandon them and has in fact nothing left as content of his ‘postmodern ethics’.

The position is also implausible in that it forgets that man has always lived in a pluralist society. Relativists and disagreement existed since millennia. Why should the power of human reason be trusted less today than before? There is no evidence to support such a thesis, except perhaps Engelhardt’s own despair of objective rational knowledge, and his skepticism which itself happens to be contradictory and to presuppose – as does any conceivable skeptical doubt – quite a number of evident truths and alleged evident truths.<sup>55</sup> On the other hand, public ethics and law were always the result of some consensus of some segments of society. But this does not liberate men from the duty to base their consensus and norms, as far as possible, on truth and knowledge. Engelhardt’s position contradicts the evidence that even public ethics can never derive its justification from consensus alone and per se but has to be guided by all available objective knowledge as to the nature and sources of moral and legal norms. To bring to appropriate evidence the real goods, obligations, and legal norms is, I submit, the only legitimate way of influencing public ethics and of bringing about a rational democratic consensus.

Hence I dismiss objections from the side of a relativistic ‘postmodern public ethics’ and strongly advocate a return to the metaphysical investigation of the nature of death as expression of an important objective side of the essence of death. The metaphysical notion of death as the separation of the soul from the body has to guide our action, in that any reasonable doubt as to its occurrence must forbid operations which might bring it about.

As to the medical concept of death or of its basic signs, I defend the notion, accepted

for many millennia, that death has occurred when 'a complete and irreversible cessation of all central vital functions (including cardio-respiratory activity and total brain infarction)' has taken place. I argue not in favor of conceivably limited and outdated notions of clinical death (from which awakening is possible) but defend just the acceptance of that *urphenomenon* of death which begins with irreversible cardiac-pulmonary arrest and is often designated as 'clinical death' in which notion the essence and the signs of death, as well as epistemological and ontological categories merge and are somewhat confused. This notion of an 'irreversible clinical death' corresponds to the classical medical criteria of death which, prior to 1968, were universally accepted.

Every layperson knows the main signs and consequences of death. Certainly, we can no longer share the unquestioning simplicity with which the classic German jurist Friedrich Carl von Savigny wrote in 1840: „Death, as the end of the natural capacity of being the subject of rights, is such a simple natural event that, like birth, it does not require an exact determination of its elements.” Nonetheless, we argue for a critical return to the datum of this 'simple natural event' of death and against the sophistry of dissolving the unity of personal and biological human life and the 'simple' notion of death or of reducing it to partial aspects.

The question 'what is death?' is, moreover, not a matter of 'normative convention' but of finding what it truly is. As A.M. Capron says: „Calling a person dead does not make him dead”.<sup>56</sup> I must discover the nature of the human person and of her biological and personal life and being. Only from this perspective of the truth about man and human life can I determine the objective nature of death and the criteria by means of which death can be ascertained.

The only acceptable medical criterion for personal human life, we conclude, is biological human life – i.e. life of a human organism, as it exists from conception on. Accordingly, the only acceptable criteria for death are the irreversible end of all central biological vital functions of the 'organism as a whole,' of the body as such, and the phenomena following thereupon, most importantly death in the ultimate ontological sense as leaving of the rational human soul as innermost principle of human life.

If biological human life is accepted as the only viable criterion of personal human life, such an acceptance has of course tremendous consequences for medicine and for the political and legal order:

1. While it allows reference to 'brain death' (total brain-infarction) as a reason for stopping extraordinary means of life-support, it forbids the use of the criterion of "brain death" for the justification of organ donation and explantation or other forms of killing.

2. With the necessary restrictions (incalculability of the moment of 'objective death', etc.) and additions (e.g., taking into consideration the distinction between 'live cell-cultures' and live human organism, and the possibilities of modern resuscitation techniques), the customary criterion of irreversible clinical or 'natural' death of the organism as a whole should be reintroduced as the medical and legal criterion chosen for the determination of death, even from a democratic consensualistic point of view.

What are the reasons for this proposal?

- A. In the first place, all the other definitions and criteria of man's death are arbitrary,

disputable, and ambiguous, while the end of biological human life is a non-arbitrary, non-disputable, and unambiguous notion and criterion of human death. It is highly arbitrary to identify the end of human life with the destruction of the neocortex, with the irreversible non-function of the brainstem, of the whole brain, while other vital organs are still alive.

The natural death of the organism as a whole, however, is a clearly and unambiguously marked end of human life. Everyone will agree that after the end of the biological life of the human organism as a whole there is no human life present in the body. Thus it fits excellently as a standard in the kind of pluralist society and suits even the argument which Engelhardt relates to the postmodern age. A complete consensus is possible with regard to the thesis that no human life is present before the beginning or after the end of the biological life of the human organism. No similar consensus can be achieved with respect to any other limit. Therefore, this most natural, unambiguous definition and criterion of human death – which has full consensus in the sense described – is preferable to any other criterion or definition of death.

B. Secondly, any other criterion is unsafe, because as long as the human organism biologically speaking lives, personal human life at least could in principle, and does with great probability, exist. Since there are many reasons for, and at any rate no clear reasons against, the assumption that human life and personal human life begin together and that the human person (soul) is present in man from conception until death, one might at least possibly kill a human person when one kills a biologically living human being, even in the earliest stages of embryonic development and in the latest phases of human life. Hence it is at least ‘unsafe’ to take the organs from a ‘brain-dead’ but otherwise biologically living being.<sup>57</sup> The mere probability of a human person being present and the absence of moral certainty of his death make it morally and legally wrong to kill him.

C. Thirdly, the best theoretical understanding of human life commends the criterion of biological human life as indicator of personal human life – in view of

- a. the demonstrable errors in all four discussed arguments for the identification of “brain death” with actual human death and as a result of the refutation of all arguments in favor of identifying “brain death” with actual human death;
- b. in view of the unity of body and soul and of the human being as a whole;
- c. in view of ethical and scientific reasons which show that the mere verification of “brain death” through apnea tests might lead to killing patients;
- d. in view of the principle: in case of doubt decide in favor of life!

Thus we can say that the rejection of the “brain death” definition of human death is necessary for theoretical and ethical philosophical reasons.

In order to see clearly the wrongness of the “brain death” definitions of actual human death, one has first to cease regarding this matter as an issue to be resolved by medical scientists primarily. It is decisive that it be recognized that the key issue at stake in the “brain death” discussion is philosophical, not medical. Persons who agree on all medical facts and evidences disagree on this issue for purely philosophical or

religious reasons.

Given the immense practical pressure (from the established centers of organ-transplant medicine) on each medical institution regarding this matter, and given the duty of the philosopher towards the truth, we must certainly refuse to adapt to prevailing modern opinion on death simply because it prevails in medical circles. Each one of us must resist the temptation to adjust his position on any issue in accordance with social expectations and desires of hospitals or patients. Rather, we have the task to speak out on the truth in season and out of season, while undertaking every effort to make the truth understood and accepted by men. But precisely the truth, I argue, obliges us not to accept the identification of 'brain death' with *actual human death*.

In the light of our theoretical and ethical-practical arguments (that are partly independent from whether or not "brain death" is actual human death) and in the spirit of Hippocrates we must conclude:

*Ceterum censeo...* For the rest I judge that the definition and application of "brain death" ought to be entirely abandoned!

*Ceterum censeo definitionem applicationemque "mortis cerebialis" esse delendas!*

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<sup>1</sup> See also Josef Seifert, *Leib und Seele. Ein Beitrag zur philosophischen Anthropologie* (Salzburg: A. Pustet, 1973), and my *What is Life? The Originality, Irreducibility, and Value of Life*, ed. by Robert Ginsberg, Value Inquiry Book Series 51, (New York/Amsterdam/Atlanta, GA: Rodopi/Value Inquiry Book Series, 1997), 182 (XIX, 163 S.), 2nd ed., (Amsterdam: Rodopi, 2001).

<sup>2</sup> I criticized such theories in Josef Seifert, „Is 'Brain Death' actually Death?," *The Monist* 76 (1993), 175-202; and in „La morte cerebrale non è la morte di fatto. Argomentazioni filosofiche," in: Rosangela Barbaro e Paulo Becchi (a cura di/Ed.), *Questioni mortali. L'attuale dibattito sulla morte cerebrale e il problema dei trapianti*. Collana „Dialoghi oltre il chiostro", diretta da Giuseppe Reale, 12 (Napoli: Edizioni scientifiche Italiane, 2004), pp. 77-97, but also in my books: Josef Seifert, *What is Life? On the Originality, Irreducibility and Value of Life*. Value Inquiry Book Series (VIBS), ed. by Robert Ginsberg, vol 51/Central European Value Studies (CEVS), ed. by H.G. Callaway (Amsterdam: Rodopi, 1997); the same author, *Leib und Seele. Ein Beitrag zur philosophischen Anthropologie* (Salzburg: A. Pustet, 1973), and *Das Leib-Seele Problem und die gegenwärtige philosophische Diskussion. Eine kritisch-systematische Analyse* (Darmstadt: Wissenschaftliche Buchgesellschaft, 21989).

<sup>3</sup> Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Brain Death: 1968, 'Report of the Ad hoc committee of Harvard Medical School to examine the definition of brain death', in *Journal of the American Medical Association /JAMA*, 209, pp. 337-43.

<sup>4</sup> "Life" in the second sense expounded in the previous chapter.

<sup>5</sup> See D. Alan Shewmon, 1985, 'The Metaphysics of Brain Death, Persistent Vegetative State, and Dementia', *The Thomist* 49 (1985), pp. 24-80; 1987, 'Ethics and Brain Death: A Response', *The New Scholasticism* 61, pp. 321-344.

<sup>6</sup> Here I see the work of cardio-neurologist Professor A.J. Armour and his discovery of the „little brain of the heart," explained briefly in his paper for this Meeting, as a very interesting further confirmation of the fact that the brain is not the sole and central integrator of physiological organic life.

<sup>7</sup> D. Alan Shewmon, „*Somatic Integrative Unity: A Nonviable Rationale for 'Brain Death'*," Second International Symposium on Coma and Death, Havana, Cuba, February 28, 1996. Published as „The brain and somatic integration: insights into the standard biological rationale for equating 'brain death' with death." *Journal of Medicine and Philosophy*, 1999.

<sup>8</sup> This refers to the very well researched case of "TK". See D. Alan Shewmon, "The ABC of PVS", in: *Brain Death and Disorders of Consciousness* [Proceedings of the 4th International

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Symposium on Coma and Death], ed. Calixto Machado and D. Alan Shewmon (New York: Kluwer Academic/Plenum Publishers, 2004). See also D. Alan Shewmon, 'Is Brain Death Actually Death? An Autobiographical Conceptual Itinerary', *Aletheia VII* (1995-1996-1997).

<sup>9</sup> Unpublished paper for Marquette Conference on Brain Death June 2016, p. 1.

<sup>10</sup> *Ibid.*, p. 2:

The simplest criterion for death is total cellular death; i.e., the transition from a living organism to a collection of non-living organic matter with no viable cells present. Yet cellular life persists in the body for hours or even days after an individual has been declared dead by current medical standards; live cells have been recovered from human skin, dura and retina up to 48 hours after death, with cells remaining viable in the human cornea for up to a week."

<sup>11</sup> Maureen L. Condic, "Determination of Death: A Scientific

Perspective on Biological Integration" *Journal of Medicine and Philosophy*, p. 5-6

#### Tissues

and organs in laboratory culture are aggregates of cellular organisms, but not organisms in their own right. In the natural environment of the body, they are parts that contribute to the function and survival of the (multicellular) organism as a whole.

In contrast to human organs, a human being functions as an organism at all stages of life. From the moment of sperm-egg fusion onward, a human embryo enters into a developmental sequence that will produce the cells, tissues, organs, and relationships required for progressively more mature stages (Condic, 2008, 2014b).

<sup>12</sup> *Integration*: The compilation of information from diverse structures and systems to generate a response that (1) is multifaceted, (2) is context dependent, (3) takes into account the condition of the whole, and (4) regulates the activity of systems throughout the body for the sake of the continued health and function of the whole.

Integration is (by definition) a global response and during postnatal stages of human life is uniquely accomplished by the nervous system, most especially the brain. (*Ibid.*, p. 15)

<sup>13</sup> "If the *integrated* function that is uniquely provided by the brain at postnatal stages is not required for human life, distinguishing the living from the dead is simply a matter of degree. And if any arbitrary level of coordination is sufficient to conclude that a human organism remains alive, then an organism is nothing

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more than the sum of its constituent parts; i.e., if parts remain and their functions persist, then a human organism also persists, at least *partially*. The view that a body remains alive after the death of the brain is fundamentally a reductionist argument that denies the existence of an integrated human whole beyond the properties of the cells and organs that comprise the body. If this view were correct, then human death would not occur until every single cell in the body had died. (*Ibid.*, p, 18)."

<sup>14</sup> *ibid.*, p. 6: "Thus, a mature human body is composed of many trillions of cells, but these cells are integrated into a single functional unit that autonomously sustains its

own life and health."

<sup>15</sup> *Coordination*: The ability of a stimulus, acting through a specific signaling molecule, to bring responding cells into a common action or condition. Coordination can reflect either (1) a single type of response that occurs simultaneously in multiple cells or (2) a set of synchronous, but cell-type specific responses. Coordination can be local or global and is accomplished both by the brain and by other signaling systems.

<sup>16</sup> See D. Alan Shewmon, 1997b, „Spinal Shock and ‘Brain Death’: Somatic Pathophysiological Equivalence and Implications for the Integrative-unity Rationale,” *Spinal Cord* (1999), 37, 313-324.

<sup>17</sup> This leads to the third argument for brain death discussed below.

<sup>18</sup> In quite another way the sexual organs of human persons possess a similar or even higher dignity because on their functions not only the *conscious life* of persons but their very life and existence themselves depend.

<sup>19</sup> See Peter Singer, „Morte cerebrale ed etica della sacralità della vita,” in: Rosangela Barbaro e Paulo Becchi (a cura di/Ed.), *Questioni mortali. L’attuale dibattito sulla morte cerebrale e il problema dei trapianti*. Collana „Dialoghi oltre il chiostro”, diretta da Giuseppe Reale, 12 (Napoli: Edizioni scientifiche Italiane, 2004), pp. 99-99-121. Also Alan Shewmon’s defense of brain death criteria was entirely based on this. See D. Alan Shewmon, 1985, ‘The Metaphysics of Brain Death, Persistent Vegetative State, and Dementia’, *The Thomist* 49 (1985), pp. 24-80; see also, Josef Seifert, „La morte cerebrale non è la morte di fatto. Argomentazioni filosofiche,” *ibid.*, pp. 77-97.

<sup>20</sup> See Immanuel Kant, *Vorlesungen über die Metaphysik* (Pölitz) PM 201-202:

Wir werden also von der Seele *a priori* nichts mehr erkennen, als nur so viel, als uns das Ich erkennen läßt. Ich erkenne aber von der Seele:

1) daß sie eine Substanz sey; oder: Ich bin eine Substanz. Das Ich bedeutet das Subject, sofern es //PM202// kein Prädicat von einem andern Dinge ist. Was kein Prädicat von einem andern Dinge ist, ist eine Substanz. Das Ich ist das allgemeine Subject aller Prädicate, alles Denkens, aller Handlungen, aller möglichen Urtheile, die wir von uns als einem denkenden Wesen fällen können. Ich kann nur sagen: Ich bin, Ich denke, Ich handele. Es geht also gar nicht an, daß das Ich ein Prädicat von etwas andern wäre. Ich kann kein Prädicat von einem andern Wesen seyn; mir kommen zwar Prädicate zu; allein das Ich kann ich nicht von einem andern prädiciren, ich kann nicht sagen: ein anderes Wesen ist das Ich. Folglich ist das Ich, oder die Seele, die durch das Ich ausgedrückt wird, eine Substanz.

<sup>21</sup> See Josef Seifert, *Leib und Seele*.



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<sup>22</sup> See D. Alan Shewmon, 1985, 'The Metaphysics of Brain Death, Persistent Vegetative State, and Dementia', *The Thomist* 49 (1985), pp. 24-80. See my critique in „Is 'Brain Death' actually Death? A Critique of Redefining Man's Death in Terms of 'Brain Death'"; in: R.J. White, H. Angstwurm, I. Carasco de Paola (Ed.), *Working Group on the Determination of Brain Death and Its Relationship to Human Death*, Pontifical Academy of the Sciences (Vatican City, 1992), S. 95-143.

<sup>23</sup> See Shewmon DA, Holmes GL, Byrne PA: „Consciousness in congenitally decorticate children: 'developmental vegetative state' as self-fulfilling prophecy." *Developmental Medicine and Child Neurology* 41(6): 364-74, 1999. See also D. Alan Shewmon, 1997c, „Recovery from 'Brain Death': A Neurologist's Apologia," *Linacre Quarterly* (February 1997), pp. 30-96; 1997, 'Is Brain Death Actually Death? An Autobiographical Conceptual Itinerary', *Aletheia* VII (1995-1996-1997).

<sup>24</sup> His article that is cited on the <http://hydranencephaly.com/> contributed to a more general recognition of these facts, expressed in the 2013 statement of this same page:

“Hydranencephaly is a rare neurological condition in which most of the cerebral hemispheres are absent and replaced with fluid.

Unlike in Anencephaly where the damage to the brain happens at conception, in Hydranencephaly the baby's brain develops normally until “something” happens to cut off the flow of blood to the baby's brain. The affected part of the brain then starts to die and the tissue is reabsorbed by the body and replaced with cerebral spinal fluid (CSF). The “something” that cuts off the flow of blood to the baby's brain can be quite brief. Some of the most common causes are a stroke in the baby, prenatal drug exposure, and the death of a twin in utero. In many of the children the cause is unknown. The damage to the brain usually occurs in the 2nd or 3rd trimester of pregnancy and can occur up to a year after birth as well.

While the damage to the hemispheres is typically extensive, the child's brainstem is usually (but not always) intact. Since in our experience there does not seem to be any clear relationship between what remains of the hemispheres and the abilities of our children, it seems that they rely largely on their brainstems for relating to their surroundings, for expressing themselves and for their various emotional reactions. Given the highly sophisticated neural mechanisms housed in the brainstem, this is not as surprising as it might seem at first blush. Although it is often thought that someone has to have a cortex in order to be aware and interact with their environment children with Hydranencephaly prove otherwise.”

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<sup>25</sup> 1985, 'The Metaphysics of Brain Death, Persistent Vegetative State, and Dementia', *The Thomist* 49 (1985), pp. 24-80.

<sup>26</sup> See Robert J. White, „Isolation of the Monkey Brain: In vitro Preparation and Maintenance“, *Science*, 141, pp.1060-1061; the same author, „Preservation of Viability in the Isolated Monkey Brain Utilizing a Mechanical Extracorporeal Circulation“, *Nature*, 202, pp. 1082-1083; the same author, „The Scientific Limitation of Brain Death“, *Hospital Progress*, pp.48-51;

<sup>27</sup> J. Andrew Armour, David A. Murphy, Bing-Xiang Yuan, Sara MacDonald, David A. Hopkins, **“Gross and microscopic anatomy of the human intrinsic cardiac nervous system,”** *The Anatomical Record*, Volume 247, Issue 2, 1997, 289-298.

<sup>28</sup> This very new method is practiced at the University of Vienna Medical Center. Professor Giselher Guttman of the University of Vienna, and for a while of the International Academy of Philosophy in the Principality of Liechtenstein, has made psychological investigations into possible damages of memory or other functions in patients operated by using such methods, and has found extremely satisfactory results, often even a considerable improvement of patients in the mentioned psychological respects.

<sup>29</sup> See Storey, Kenneth B. and Janet M., „Frozen and Alive,“ *Scientific America* (Dec. 1990), pp. 62-67.

<sup>30</sup> See Jones, D.G. 1989, 'Brain birth and personal identity', *Journal of medical ethics*, 15, pp. 173-178, 185.

<sup>31</sup> See Nicanor Pier Giorgio Austriaco, OP, “The Brain Dead Patient Is Still Sentient: A Further Reply to Patrick Lee and Germain Grisez”, *Journal of Medicine and Philosophy*, 2016. See also the contribution of a distinguished anesthetist in: Roberto de Mattei (Ed.), *Finis Vitae: Is Brain Death still Life?* Consiglio Nazionale delle Ricerche, (Soveria Mannelli: Rubettino, 2006, 2007).

<sup>32</sup> Also used by Maureen L. Condit in her “Determination of Death: A Scientific

Perspective on Biological Integration” *Journal of Medicine and Philosophy*, p- 8.

<sup>33</sup> See Josef Seifert, *Sein und Wesen. Philosophie und Realistische Phänomenologie/ Philosophy and Realist Phenomenology. Studien der Internationalen Akademie für Philosophie im Fürstentum Liechtenstein/Studies of the International Academy of Philosophy in the Principality Liechtenstein*, (Hrsg./Ed.), Rocco Buttiglione and Josef Seifert, Band/Vol. 3 (Heidelberg: Universitätsverlag C. Winter, 1996), ch. 1; the same author, „El hombre como persona en el cuerpo,“ in: *Espiritu* 54 (1995), 129-156.

<sup>34</sup> See Hedwig Conrad-Martius, *Die Seele der Pflanze*. In Conrad-Martius, *Schriften zur Philosophie* (ed.) Eberhard Avé-Lallement, Bd. 1 (München: Kösel, 1963), pp. 276-362; Josef Seifert, *Leib und Seele. Ein Beitrag zur philosophischen Anthropologie* (Salzburg: A. Pustet, 1973); the same author, *What is Life? On the Originality, Irreducibility and Value of Life*. Value Inquiry Book Series (VIBS), ed. by Robert Ginsberg, vol 51/Central European Value Studies (CEVS), ed. by H.G. Callaway (Amsterdam: Rodopi, 1997).

<sup>35</sup> Josef Seifert, “Persons and Causes: beyond Aristotle,” *Journal of East-West Thought*, Fall Issue Nr. 3 Vol. 2, September 2012, pp. 1-32.

<sup>36</sup> I distinguished four entirely different meanings of “form” which often are confused. See Josef Seifert, *Das Leib-Seele Problem und die gegenwärtige philosophische Diskussion. Eine kritisch-systematische Analyse* (Darmstadt: Wissenschaftliche Buchgesellschaft, 1989); the same author, *Leib und Seele. Ein Beitrag zur philosophischen Anthropologie* (Salzburg: A. Pustet, 1973).

<sup>37</sup> See Joseph Ratzinger/Benedikt XVI,

<sup>38</sup> See Francis S. Collins, *The Language of God. A Scientist Presents Evidence for Belief*. (New York/London/Toronto/Sidney: The Free Press, 2006).

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<sup>39</sup> As John Henry Cardinal Newman explains in his sermon, *Parochial and Plain Sermons* by John Henry Newman, B.D., Sermon XIX, „The Mysteriousness of our Present Being

1. First, we are made up of soul and body. Now, if we did not know this, so that we cannot deny it, what notion could our minds ever form of such a mixture of natures, and how should we ever succeed in making those who go only by abstract reason take in what we meant? The body is made of matter; this we see; it has a certain extension, make, form, and solidity: by the soul we mean that invisible principle which thinks. We are conscious we are alive, and are rational; each man has his own thoughts, feelings, and desires; each man is one to himself, and he knows himself to be one and indivisible, -- one in such sense, that while he exists, it were an absurdity to suppose he can be any other than himself; one in a sense in which no material body which consists of parts can be one. He is sure that he is distinct from the body, though joined to it, because he is one, and the body is not one, but a collection of many things. He feels moreover that he is distinct from it, because he uses it; for what a man can use, to that he is superior. No one can by any possibility mistake his body for himself. It is his; it is not he. This principle, then, which thinks and acts in the body, and which each person feels to be himself, we call the soul. We do not know what it is; it cannot be reached by any of the senses; we cannot see it or touch it. It has nothing in common with extension or form; to ask what shape the soul is, would be as absurd as to ask what is the shape of a thought, or a wish, or a regret, or a hope. And hence we call the soul spiritual and immaterial, and say that it has no parts, and is of no size at all. All this seems undeniable. Yet observe, if all this be true, what is meant by saying that it is in the body, any more than saying that a thought or a hope is in a stone or a tree? How is it joined to the body? what keeps it one with the body? what keeps it in the body? what prevents it any moment from separating from the body? when two things which we see are united, they are united by some connexion which we can understand. A chain or cable keeps a ship in its place; we lay the foundation of a building in the earth, and the building endures. But what is it which unites soul and body? how do they touch? how do they keep together? how is it we do not wander to the stars or the depths of the sea, or to and fro as chance may carry us, while our body remains where it was on earth? So far from its being wonderful that the body one day dies, how is it that it is made to live and move at all? how is it that it keeps from dying a single hour? Certainly it is as incomprehensible as any thing can be, how soul and body can make up one man; and, unless we had the instance before our eyes, we should seem in saying so to be using words without meaning. For instance, would it not be extravagant, and idle to speak of time as deep or high, or of space as quick or slow? Not less idle, surely, it perhaps seems to some races of spirits to say that thought and mind have a body, which in the case of man they have, according to God's marvellous will. It is certain, then, that experience outstrips reason in its capacity of knowledge; why then should reason circumscribe faith, when it cannot compass sight?

2. Again: the soul is not only one, and without parts, but moreover, as if by a great contradiction even in terms, it is in every part of the body. It is no where, yet every where. It may be said, indeed, that it is especially in the brain; but, granting this for argument's sake, yet it is quite certain, since every part of his body belongs to him, that a man's self is in every part of his body. No part of a man's body is like a mere instrument, as a knife, or a crutch might be, which he takes up and may lay down. Every part of it is part of himself, it is connected into one by his soul, which is one. Supposing we take stones and raise a house. The building is not really one; it is composed of a number of separate parts, which viewed as collected together, we call one, but which are not one except in our notion of them. But the hands and feet, the head and trunk, form one body under the presence of the soul within them. Unless the soul were in every part, they would not form one body; so that the soul is in every part, uniting it with every other, though it consists of no parts at all. I do not of course mean

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that there is any real contradiction in these opposite truths; indeed, we know there is not, and cannot be, because they are true, because human nature is a fact before us. But the state of the case is a contradiction when put into words; we cannot so express it as not to involve an apparent contradiction; and then, if we discriminate our terms, and make distinctions, and balance phrases, and so on, we shall seem to be technical, artificial and speculative, and to use words without meaning.

Now, this is precisely our difficulty, as regards the doctrine of the Ever-blessed Trinity. We have never been in heaven; God, as He is in Himself, is hid from us. We are informed concerning Him by those who were inspired by Him for the purpose, nay by One who "knoweth the Father," His Co-eternal Son Himself, when He came on earth. And, in the message which they brought to us from above, are declarations concerning His nature, which seem to run counter the one to the other. He is revealed to us as One God, the Father, One indivisible Spirit; yet there is said to exist in Him from everlasting His Only-begotten Son, the same as He is, and yet distinct, and from and in Them both, from everlasting and indivisibly, exists the Co-equal Spirit. All this, put into words, seems a contradiction in terms; men have urged it as such; then Christians, lest they should seem to be unduly and harshly insisting upon words which clash with each other, and so should dishonour the truth of God, and cause hearers to stumble, have guarded their words, and explained them; and then for doing this they have been accused of speculating and theorizing. The same result, doubtless, would take place in the Parallel case already mentioned. Had we no bodies, and were a revelation made us that there was a race who had bodies as well as souls, what a number of powerful objections should we seem to possess against that revelation! We might plausibly say, that the words used in conveying it were arbitrary and unmeaning. What (we should ask) was the meaning of saying that the soul had no parts, yet was in every part of the body? what was meant by saying it was every where and no where? how could it be one, and yet repeated, as it were, ten thousand times over in every atom and pore of the body, which it was said to exist in? how could it be confined to the body at all? how did it act upon the body? how happened it, as was pretended, that, when the soul did but will, the arm moved or the feet walked? how can a spirit which cannot touch any thing, yet avail to move so large a mass of matter, and so easily as the human body? These are some of the questions which might be asked, partly on the ground that the alleged fact was impossible, partly that the idea was self-contradictory.

<sup>40</sup> Maureen L. Condit, *ibid.*, p. 9, holds the same actualistic prejudice, as if with the loss of brain activity which she seems to identify with the actual ability to think their being and life of a person were lost:

If so, no matter how impaired brain function may be, it remains possible that the capacity for some form of mental activity persists, and that the basic natural capacity for rationality (rooted in the soul) still remains

<sup>41</sup> This confusion seems also present in Maureen L. Condit, "Determination of Death: A Scientific

Perspective on Biological Integration" *Journal of Medicine and Philosophy*, p. 8:

They exhibit both persistent brain function (criterion #1) and persistent

integration (criterion #2), and are therefore still alive.

<sup>42</sup> See John F. Crosby, "Evolutionism and the Ontology of the Human Person", *Review of Politics*, 38 (April, 1976), 208-243; the same author, "Are some human beings not Persons?",

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*Anthropos* 2, 1986, pp. 215-232.

<sup>43</sup> See also Raquel Vera González, *Relaciones alma-cuerpo en la persona humana como solución al problema bioético de la muerte cerebral* en Josef Seifert, (Madrid: Fundación Universitaria española, 2005); Dietrich von Hildebrand, *Sobre la muerte. Escrito póstumo.* (Madrid: Ediciones Encuentro, 1983).

<sup>44</sup> D. Alan Shewmon, 1985, 'The Metaphysics of Brain Death, Persistent Vegetative State, and Dementia', *The Thomist* 49 (1985), pp. 24-80.

<sup>45</sup> See Hans Jonas, 'Against the Stream: Comments on the Definition and Redefinition of Death', in: Hans Jonas, *Philosophical Essays: From Ancient Creed to Technological Man*, (Englewood Cliffs, N.J., Prentice-Hall, 1974), pp. 132-140.

<sup>46</sup> Regarding this section of the paper I am in full agreement with the excellent paper by C. Brugger.

<sup>47</sup> See Josef Seifert, *What is Life? On the Originality, Irreducibility and Value of Life*. Value Inquiry Book Series (VIBS), ed. by Robert Ginsberg, vol 51/Central European Value Studies (CEVS), ed. by H.G. Callaway (Amsterdam: Rodopi, 1997), ch. 4.

<sup>48</sup> See T. H. Engelhardt, Jr., *The Foundation of Bioethics*, (New York and Oxford: Oxford University Press, 1986), p. 207 ff. (2nd ed., Oxford University Press, 1996).

<sup>49</sup> This term can still mean two different things: a) a certainty about the moral quality of our acts, or b) a certainty about states of affairs in the world which are not morally good or evil, right or wrong, but which are morally relevant.

<sup>50</sup> We must also remind ourselves of an empirical argument for the uncertainty of our knowledge concerning the time of death. Think of the 'life after life' experiences of people who were declared clinically dead and still had all sorts of experiences associated with their body. Could not brain-dead persons be in a similar state prior to the occurrence of actual death? See the completely reliable report on such experiences by an author I knew very well: Hellmut Laun, 1983. Limits of length put on this essay forbid the required lengthy discussion of the epistemological value of such experiences.

<sup>51</sup> It doesn't necessarily require an apnea test, but usually does. If an apnea test cannot be performed, for whatever reason, the diagnostic criteria still allow BD to be diagnosed if EEG and/or blood flow tests are employed. I don't think this is diagnostically valid, but an apnea test is not required in order to diagnose BD nowadays.

<sup>52</sup> See Cicero Coimbra, "The apnea test – a bedside lethal 'disaster' to avoid a legal 'disaster' in the operating room," in: Roberto de Mattei (Ed.), *Finis Vitae: Is "brain death" still Life?* Consiglio Nazionale delle Ricerche, (Soveria Mannelli: Rubettino, 2006, 2007).

<sup>53</sup> Engelhardt, 1989, p. 33.

<sup>54</sup> *ibid.*

<sup>55</sup> See Josef Seifert, *The Philosophical Diseases of Medicine and Their Cure. Philosophy and Ethics of Medicine*. Vol. 1: Foundations. Philosophy and Medicine, vol. 82 (New York: Springer, 2004) – *Philosophical Diseases of Medicine and Their Cure. Philosophy and Ethics of Medicine*. Vol. 1: Foundations. Philosophy and Medicine, vol. 82, Kluwer online e-book, 2005, ch. 4-5. *Unbe zweifelbare Wahrheitserkenntnis. Jenseits von Skeptizismus und Diktatur des Relativismus*. (Mainz: Patrimonium-Verlag, 2015); *Der Widersinn des Relativismus: Befreiung von seiner Diktatur*. (Mainz: Patrimonium-Verlag, 2016).

<sup>56</sup> *American Medical News*, April 17, 1987, p. 1-

<sup>57</sup> This same argument from the uncertainty is defended by H. Jonas, 1974, p. 138? „We do not know with certainty the borderline between life and death, and a definition cannot substitute for knowledge... In this state of marginal ignorance and doubt the only course to take is to lean over backward toward the side of possible life.“