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A Reply to Anders' 'Mind, Mortality and Material Being: van Inwagen and the Dilemma of Material Survival of Death'

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Abstract In his paper 'Mind, Mortality and Material Being' Paul Anders attempts to show that Peter van Inwagen's materialist metaphysics of the human person, combined with the belief that human persons survive death, faces a dilemma. Either, on the one hand, van Inwagen has to accept an account of the survival of human persons across death that cannot escape the duplication objection (§1.2), or, on the other hand, van Inwagen has to accept an account of the survival of human persons across death that entails the possibility of that which is logically impossible and, in consequence, renders his metaphysics necessarily false (§2). This paper is concerned with the second horn of the dilemma. In this paper, I will attempt to do two things. First, I will attempt to show that Anders' description of van Inwagen's 'naked kernel' (van Inwagen 2009, 329) account of the survival of human persons across death is, at times, unclear, before, second, attempting to demonstrate that there is a response that van Inwagen could give to Anders' argument regardless of these unclarities. Consequently, I think that, at least until Anders' description is made clearer, and until Anders tells us why van Inwagen can't opt for the solution I propose, we should consider van Inwagen's inclination that God can preserve a kernel that is sufficient for the survival of human persons across death to be unharmed by Anders' argument.

Keywords Death · Materialism · van Inwagen · Personal identity · Metaphysics

In his 2011 paper 'Mind, Mortality and Material Being' (henceforth 'MMM') Paul Anders attempts to demonstrate that Peter van Inwagen's materialist metaphysics of the human person is inconsistent with the belief that human persons survive their death. Anders does this by arguing that either van Inwagen has to accept an account of

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survival that falls to 'the duplication objection' (Anders 2011, 31) or he has to accept that it is possible for a 'kernel' (an object that persists across death and is sufficient for the persistence of a particular human organism) to be identical with two persons at once and, since it is logically impossible (on van Inwagen's metaphysics) for two persons to be identical with one object, accept that his 'account entails the possibility of what is impossible' (Anders 2011, 35) and, in consequence, accept that his account is necessarily false.

In this paper, I will attempt to demonstrate two things. First, I will attempt to show that Anders' interpretation of van Inwagen's metaphysics, in particular his description of how a material being can survive death in virtue of a persisting kernel is unclear, before, second, proposing a response on behalf of van Inwagen to Anders' argument. I will argue that until Anders' description is made clearer and until Anders tells us why van Inwagen cannot opt for the solution I propose, we should consider van Inwagen's inclination that God can preserve a kernel that is sufficient for the survival of human persons across death to be unharmed by Anders' argument.

I will argue for this conclusion as follows: First, (§1) I will outline van Inwagen's materialist metaphysics and van Inwagen's current solution to the problem of the resurrection of human organisms. Second, (§2) I will outline Anders' interpretation of that solution and Anders' argument that this solution entails the falsity of van Inwagen's metaphysics. I will also highlight some sections of Anders' paper that are unclear and attempt to make them clearer. Third, (§3) I will offer a response to Anders' argument on behalf of van Inwagen.

§1 Material Beings and the Resurrection

Before I outline Anders' argument against van Inwagen and respond to it, I must outline three strands of van Inwagen's metaphysics. They are the following: van Inwagen's metaphysics of composition, van Inwagen's criterion for the persistence of human organisms across time and van Inwagen's modes of death. I will then introduce the challenge that the doctrine of the resurrection poses for such metaphysics.

Material Beings

First, I will outline van Inwagen's metaphysics of composition. Van Inwagen's general metaphysical project as outlined in *Material Beings* (van Inwagen 1990) is to answer the special-composition question. That is, 'when is it true that ∃y the xs compose y?' (van Inwagen 1990, 30). Van Inwagen is unsatisfied with the extreme answers to this question: nihilism (put simply, the view that there are no composite objects) and universalism (put simply, the view that for any plurality of objects, those objects compose something) (van Inwagen 1990, 72–74). Consequently, he proposes what he takes to be a moderate answer to this question.

Put simply, van Inwagen holds that there is one and only one way in which it can be true that ∃y the xs compose y. This is when 'the activity of the xs constitutes a life' (van Inwagen 1990, 90). A life, according to van Inwagen, is a natural biological process that simples get 'caught up' (van Inwagen 1990, 94) in and, in virtue of which, come to

compose an organism. Consequently, he thinks that it is the job of biology to supply us with the relevant definition of a life. He does, however, go on to give what I take to be three non-biological conditions for z's being a life. I, following van Inwagen, define 'life' as follows:

> Life $=_{\text{def.}}$ z is a life *iff* z is an event that is (i) well-individuated (ii) self-maintaining and (iii) jealous.

'Event,' 'well-individuated,' 'self-maintaining' and 'jealous' as used by van Inwagen are all technical terms. I shall say a little about each here. First, I shall consider events. Van Inwagen refrains from offering an ontology of events but he does say that lives are, of course, events that are individuals or particulars and not 'events' in the sense 'that can recur' (van Inwagen 1990, 82). It should also be said that van Inwagen understands lives to be a particular type of event, a process, since he refers to the event type—life—as a natural 'process' (van Inwagen 1990, 146). 'Well-individuated,' put simply, means that it is 'reasonably clear…whether a life [that] is observed at one time…is the same life as a life that is observed at another time (or place)' (van Inwagen 1990, 87). 'Self-maintaining' says that lives need no external support for their existence.[1] A shoot of water from a fountain, for example, is not a self-maintaining event. It needs a pump to keep it going, whereas a life needs only the biological processes that are inherent to it.[2] 'Jealous,' put simply, says that 'it cannot be that the activities of the xs constitute at one and the same time two lives' (van Inwagen 1990, 89).

This answer to the special-composition question means that there are no material objects that are not organisms or material simples. This is because, on a materialist metaphysics, the only objects that exist are material simples and objects that are composed by material simples.[3] But, since, according to van Inwagen, the only objects that can be composed by material simples are those objects that have a life then the only objects that exist, besides material simples, are organisms. The material simples that seemingly compose chairs, tables and computers, therefore, do not actually compose these (supposed) things since these simples are not caught up in a well-individuated, self-maintaining and jealous event. We might say, with van Inwagen, that the simples that seemingly compose such objects only 'virtually' (van Inwagen 1990, 133) compose them.

Second, since we are interested in the persistence of human organisms across death we will want to know van Inwagen's criterion for persistence of human organisms. Van Inwagen clarifies his criterion for persistence of organisms (*Life*[4]) as follows:

> *Life* = 'if the activity of the xs at t_1 constitutes a life, and the activity of the ys at t_2 constitutes a life, then the organism that the xs compose at t_1 is the organism that the ys compose at t_2 if and only if the life constituted by the activity of the xs at t_1 is the life constituted by the activity of the ys at t_2' (van Inwagen 1990, 145).

[1] Besides, perhaps, God's ongoing external support.
[2] This will be further discussed below (§3).
[3] Setting aside gunk theories for the time being.
[4] Van Inwagen uses the term 'life' in two ways. First, 'life' (non-italicised) denotes an event, as defined above. Second, '*Life*' (italicised) denotes his criterion for the persistence of an organism. I will follow van Inwagen.

An organism persists, therefore, when its life persists. This principle, however, while a necessary and sufficient condition for the persistence of organisms in general, is not yet sufficient for the persistence of *human* organisms (or persons) in particular.

This is because when thinking about the persistence of human organisms in particular, we tend to think that 'in Daniel Dennett's words, where my brain goes, go I' (van Inwagen 1990, 169). Despite Dennett's objections to this slogan, van Inwagen believes that one does, in fact, go with one's brain and this belief (so van Inwagen argues) can be shown to be 'a natural consequence of the principles governing the unity and persistence of organisms' (van Inwagen 1990, 169).

As Anders notes, there are several stages to van Inwagen's argument for this claim. First, van Inwagen argues that it is correct to say 'I exist', and he bases this claim on the Cartesian argument for one's existence without any commitment to the existence of immaterial beings. Second, van Inwagen argues that it is correct to say that I exist as a composite object. He defends this claim by arguing that, as Anders notes, 'thinking requires a unified and organised interaction of parts that the mere coming together of material simples cannot produce' (Anders 2011, 30). Consequently, he concludes that if I am a material object then I am a composite object. Third, van Inwagen argues that it is the simples that compose one's brain (a virtual object) that are the simples that compose one. He is able to argue this because, as Anders highlights, the brain is, according to van Inwagen, 'the seat of the information that directs the homeodynamic event that is the life of the entire human organism' (Anders 2011, 30). It must be further added, however, that a surgically removed brain, or relevant part of that brain, that is not able to function as a living organism, has ceased to exist and, therefore, cannot compose a particular organism. Consequently, for a particular organism to exist and for personal identity to be maintained, it needs to be the case that the activity of the simples that compose the brain constitutes a life.[5]

Anders helpfully formulates this principle (the principle of personal identity with regard to human organisms, or PPI_{HO}) as follows:

'PPI_{HO} The person that the zs compose at t_1 is the person that the zs* compose at t_2 iff:

(1) the activity of the xs that virtually compose a brain, or the relevant portion thereof, at t_1 are a subset [sic] of the zs whose activity constitutes a life at t_1;
(2) the activity of the ys that virtually compose a brain, or the relevant portion thereof, at t_2 are a subset of the zs* whose activity constitutes a life at t_2;
(3) the life constituted by the activity of the zs at t_1 is the life constituted by the activity of the zs* at t_2' (Anders 2011, 30).

Put simply, Anders concludes that the sufficient condition for personal identity of human organisms across time is as follows: 'a human person exists as long as there persists a human life-event that arises from the ongoing interaction of simples a portion of which continually[6] compose a human brain' (Anders 2011, 31). This is consistent with *life* (above) but includes the relevant consideration of the place of the brain, or portion thereof,[7] which directs a human life.

[5] An exception to this rule will be considered by Anders below (§2).
[6] NB. Anders includes 'continually' when this word does not appear in PPI_{HO}.
[7] We should not think that it must be the whole brain since one does not need a whole brain to direct the homeodynamic event, a life.

Third, and finally, since we are interested in the persistence of human persons across death we need to know what van Inwagen counts as death for human organisms. If we understand death to be the cessation of life then van Inwagen gives two ways in which an organism can die. I call these two ways 'modes' of death. First, he gives the mode of death that he calls 'disruption.' This can be put as follows: (I will define each mode as I go. I will use the abbreviation "MD" to indicate a mode for death).

(MD1) Disruption = *O*'s life has been disrupted at t if the simples that composed *O* have been dissociated from one another.

For example, van Inwagen writes that this dissociation has occurred when the organism 'has been blown to bits by a bomb or…died naturally and has been subject to the normal "room-temperature" processes of biological decay for, say, 15 min' (van Inwagen 1990, 147). The important point is that when an organism gets blown to bits by a bomb, or has died naturally and has been subject to normal processes of biological decay, the xs that composed that organism cease to be caught up in a life.

Van Inwagen also goes on to give one more way by which a life may cease: the mode of death 'suspension' (van Inwagen 1990, 147).

(MD2) Suspension = *O*'s life has been suspended at t if the life, L, in virtue of which the simples composed *O* has ceased and the simples that were caught up in L retain—owing to the mere absence of disruptive forces—their individual properties and their relations to one another.

For example, van Inwagen writes that suspension could occur for a cat when 'we reduce its body temperature to very nearly absolute zero by some technique (not currently available, by the way) that does no irreversible organic damage' (van Inwagen 1990, 147). This counts as death since the life of the cat 'has ceased' (van Inwagen 1990, 147) but is still 'there' (van Inwagen 1990, 147) owing to the absence of disrupted forces. That is, the cat's life can begin again perhaps with 'a gentle prod…an electrical stimulus to the heart muscle of the just-thawed cat, or something of that sort' (van Inwagen 1990, 148).[8]

Given these two modes of death van Inwagen lays down the following two principles '[i]f a life has been disrupted, it can never begin again; any life going on after its disruption is not *that* life. If a life has been suspended, it can begin again; if the requisite energy is supplied to the simples whose activity has been suspended' (van Inwagen 1990, 147).

This completes my overview of van Inwagen's materialist metaphysics of the human person.

The Resurrection

A problem for van Inwagen now becomes clear. The doctrine of the resurrection (a doctrine that van Inwagen wants to retain) seems impossible on his metaphysics. This

[8] While, according to van Inwagen, the life has ceased, we should agree (unless there is a good reason not to) that the organism that existed in virtue of the life still exists in virtue of the suspended life. As van Inwagen writes, '[i]t is not absolutely essential to my position to say that the organism exists when its life is suspended, but I feel inclined to say that it does' (van Inwagen 1990, 148).

is because, since van Inwagen thinks that when a life has been disrupted, as appears to be the case in all circumstances of natural death, it 'can never begin again' (van Inwagen 1990, 147), and since for one organism at one time to be identical with an organism at another time the activities of the simples that compose both organisms need to constitute *the same life*, any organism that exists after the disruption of a particular life cannot be identical with the organism that has died. Consequently, van Inwagen cannot appeal to models of the resurrection that, for example, rely on God's recomposing the body of a particular organism from the simples that once composed it at an earlier time (call this model 'recomposition').[9]

Because of this van Inwagen may want to accept a model of the resurrection that allows for the possibility of two distinct bodies (one pre-resurrection and one post-resurrection) both being related to the same life.[10] However, to accept such an account, Anders argues, would leave van Inwagen open to the duplication objection. Anders notes that, while it is impossible on van Inwagen's metaphysics for a certain set of simples that have been dissociated from each other to be made to recompose that organism (as in the case of recomposition), it is not clear that on van Inwagen's metaphysics the activities of the simples that compose two apparently distinct bodies (one body and its duplicate) could not both be related to the same life 'in a way that is required for personal identity over time' (Anders 2011, 31). But, if this were the case, then, Anders argues, it is possible on van Inwagen's metaphysics that two numerically distinct organisms exist at the same time that are identical to one another. But since, so the duplication objection goes, identity 'is symmetrical and transitive, it is impossible of three purported objects {A, B, C}, that A be identical to B, and A be identical to C, and B not be identical to C' (Anders 2011, 27), consequently if van Inwagen were to accept that the simples that composed two distinct bodies could constitute the same life then van Inwagen's materialist metaphysics would allow for an impossible state of affairs, and so should be considered false.

Consequently, Anders argues, van Inwagen should not have recourse to a model of resurrection that entails the existence of two numerically distinct sets of simples (that compose two apparently distinct bodies) the activity of which constitutes the same life.[11]

The fact that van Inwagen cannot appeal to an account of the resurrection that relies upon the possibility of two distinct bodies both being related to the life of one organism requires, according to Anders, van Inwagen to accept an account of the persistence of a particular organism across death that focuses on the material and causal continuity of the activity of *one lot* of simples 'that compose the essential part of a person at a given time' (Anders 2011, 32). It seems that van Inwagen (although perhaps for different reasons) would agree. Van Inwagen himself has stated that his current inclination is to argue that at the time of a human organism's death, 'God will somehow…preserve a

[9] See van Inwagen 2009.

[10] Take 'the falling-elevator model' (Zimmerman 2009) as an example.

[11] While this is a part of Anders' argument his argument is actually stronger than this. Anders not only argues that van Inwagen's model should not appeal to the possibility of two groups of simples simultaneously constituting the ongoing life of one organism but he thinks that 'a proponent of van Inwagen's view must show that the activities of two distinct groups of simples could not simultaneously constitute the ongoing life of a single organism' (Anders 2011, 31). For the sake of brevity I will not consider Anders' stronger claim in this paper.

remnant of each person, a *gumnos kókkos* (a naked kernel: 1 Cor 15:37)' (van Inwagen 2009, 327) 'which will continue to exist throughout the interval between my death and my resurrection and will, at the general resurrection, be clothed in a festal garment of new flesh' (van Inwagen 1995, 486), that is, constitutes a resurrected human organism.

§2 Mind, Mortality and Material Being

Anders takes van Inwagen's suggestion that God might preserve a naked kernel of each person upon death and puts forward an explication of what he understands van Inwagen to think is the nature of this naked kernel and what he understands van Inwagen to think happens when somebody dies. Immediately below I will do two things. First, I will outline what Anders understands van Inwagen to think happens when someone dies and what Anders understands van Inwagen to mean when he says that God will preserve a naked kernel before, second, outlining Anders' argument against van Inwagen. Having done this, in (§3) I will respond to Anders.

Anders thinks that (according to van Inwagen) when someone dies the organisational structure of that person's life gets compacted. Anders calls this 'the principle of death as compaction' (Anders 2011, 34) or 'PDAC.'

> PDAC = '[i]f a human person p dies at time t_1, then p's life is suspended and the organisational structure of p's life is compacted into a small portion of the simples whose activity constituted p's life at t_1' (Anders 2011, 34).

According to Anders, upon PDAC when a human person dies that person's life gets suspended MD2, and the 'organisational structure' (Anders 2011, 34) of this life gets compacted. It is not entirely clear what the 'organisational structure of p's life is compacted' (Anders 2011, 34) means, but I will try to explain.

First, it seems to me that what must be meant by 'organisational structure of p's life' is that the 'multi-grade interrelations of simples' (Anders 2011, 32) that constitute a life remain upon suspension. That is, we might say that the simples are 'organised' in a certain way in virtue of these remaining relations. Second, upon compaction, these multi-grade interrelations remain applied to a small portion of simples. That is, while the organism was alive, it was composed by a relatively large number of simples related to one another in a certain way; when the organism dies and gets compacted it comes to be composed by a small portion of those simples.

These simples compose, according to Anders' description of van Inwagen's metaphysics, the naked kernel (I will return to the question of what exactly happens upon compaction below). More specifically, we might define Anders' kernel as follows:

> Anders' Kernel $=_{\text{def.}}$ x is a kernel *iff* x is (i) a small portion of the simples (i.i) that composed the relevant portion of a person's brain (i.ii) whose activity constitutes the (i.ii.i) suspended and (i.ii.ii) compacted life of that organism.

(i), (i.ii), (i.ii.i) and (i.ii.ii) are supported by PDAC. (i.i) follows from the fact the persistence of a human person requires not just a portion of simples but a portion of

simples the activity of which 'virtually compose a brain, or the relevant portion thereof' (Anders 2011, 31). It is not made clear by Anders what, precisely, this relevant portion is. But it seems that (according to Anders), so long as this portion of the organism is composed of simples that virtually compose a brain and this portion of the simples that virtually compose a brain is composed of at least one fewer simples than it was composed of before compaction of the organism occurred then we can refer to this portion as the 'relevant portion.'

Two points of clarification regarding (i.ii.i) and (i.ii.ii) must also be made here. First, upon PDAC one may wonder whether or not a life exists. I think that Anders would agree that, while a life 'has ceased' (van Inwagen 1990, 147) there is a sense in which there is still a life 'there' (van Inwagen 1990, 147). This life, however, is a life in suspended form and, thus, 'not a life in the strict sense established by van Inwagen's "*Life*" principle' (Anders 2011, 35).

Second, Anders uses the term 'compaction' (i.ii.ii) in three ways. First, Anders talks about 'Dave's compacted life' (Anders 2011, 35) i.e. he refers to a life being compacted. Second, however, as previously noted, Anders says that it is not the life that gets compacted but the organisational structure of a life that gets compacted. Third, Anders refers to the fact that persons (and not lives or the organisational structure of lives) get compacted. He writes, for instance, 'Steve gets compacted' (Anders 2011, 34). It is not entirely clear, then, that (i.ii.ii) is correct since it refers to a 'compacted life' and not the compacted organisational structure of a life or the compaction of a person.

While this is unclear, I think we should go with what seems to be the most consistent use of the term 'compaction;' the compaction of the 'organisational structure' of one's life as described above. In consequence, when Anders writes that 'Steve gets compacted,' I take him to mean that the various multi-grade relations between the simples that compose the relevant portion of Steve the moment before Steve's death continue to obtain. Likewise, when Anders refers to 'Dave's compacted life' I take him to mean that the portion of simples that compose Dave retains the relevant multi-grade relations to one another sufficient for the continuation of Dave's life.

After attempting to demonstrate how PDAC is an intended feature of van Inwagen's metaphysics and describing a kernel, Anders develops a thought experiment that, he argues, is consistent with van Inwagen's metaphysics. From this thought experiment, Anders runs an argument against van Inwagen. I will describe Anders' thought experiment before putting his argument into premises.

Anders writes, '[c]onsider a secretive young man named Dave with an ill-fated enthusiasm for explosives. One day while alone on vacation Dave blows himself to bits in the middle of the Mohave Desert' (Anders 34, 2011). Following this explosion Anders suggests that it is consistent with van Inwagen's metaphysics that person p_1 (Dave) alive at time t_1 has died at time t_2 in virtue of the explosion. However, according to PDAC, death results in p_1's life being suspended and the organisational structure of p_1's life being compacted into a kernel of simples, k, therefore avoiding disruption. At time t_3, however, another person, p_2 (Steve), consumes k. This results in k's being caught up in p_2's life. Sometime later, time t_4, while still carrying k, p_2 also dies. Likewise, according to PDAC, p_2's life also gets suspended and the organisational structure of p_2's life gets compacted. Specifically, on this occasion, according to Anders,

the organisational structure of p_2's life gets compacted into the same pellet of simples that is *k*.[12] Given that this thought experiment is, apparently, consistent with van Inwagen's metaphysics Anders runs the following argument:

1. It is logically impossible for two persons to come to have all their constituents in common at one and the same time.
2. Van Inwagen's theory entails that it is possible[13] for two persons to become compacted into one kernel, *k*, and, in consequence, for 'two numerically distinct persons [to] have all their constituents in common' (Anders 2011, 37) at one and the same time.

(3) Any theory that entails that which is logically impossible is, in fact, possible is necessarily false.

(4) From (1) and (2) van Inwagen's theory entails the possibility of that which is logically impossible.

(C1) Therefore, from (3) and (4) van Inwagen's theory is necessarily false.

I will now briefly assess each of the premises before offering a more in-depth analysis of Anders' argument in (§3). Premise (1) follows from van Inwagen's commitment to the jealous nature of lives. Premise (2) is prima facie true in virtue of PDAC and Anders' description of a kernel. It might be pointed out that there are a number of alternative possibilities here. One of these possibilities being that God could compact one kernel *k* for p_2 and another for p_1. This is true; God could do this and other things besides, but Anders' argument only requires that it be *possible* for two persons to become compacted into one kernel, *k* (see Anders 2011, 35 for a defence of this claim), not that this scenario actually occurs. Not only this, but it might be asked why one should accept that when p_2 eats p_1 and dies, the organisational structure of p_2's life gets compacted into the same collection of simples that is *k*. Why could it not be the case, for instance, that God preserves or removes for safekeeping the kernel *k* that is Dave, and Steve does not, therefore, consume *k*?[14] In response, Anders writes that 'God need not preserve the kernel of every human being…[and] if God does not preserve human beings necessarily, then it is possible that Dave's kernel be formed and that it remain after Dave's death. If this is possible then the scenario I have suggested is possible. What God can or might do does not render my scenario impossible' (Anders 2011, 36). For the sake of the argument at this time I shall grant that this is possible.[15] I understand premise (3) to be uncontroversially true. (4), as I have highlighted, is entailed by (1) and (2), and the conclusion (C1) follows from (3) and (4) by modus ponens. This sums up one horn of the dilemma that Anders uses to argue against van Inwagen's metaphysics. I will now offer some responses on van Inwagen's behalf.

[12] This does not follow from, but is consistent with, what I have said above. I attempt to clarify below.

[13] Specifically Anders thinks that it is 'nomologically' possible on van Inwagen's view. I will avoid using this term as I don't think it does any significant work in Anders' paper.

[14] I thank an anonymous reviewer for highlighting these two issues with Anders' argument.

[15] It's not clear to me that just because van Inwagen's position does not rule out the possibility of some state of affairs does not mean that his theory *entails* that that state of affairs is possible. Since this is an assumption that Anders' argument makes; however, I shall grant it in this paper.

§3 A Possible Solution for van Inwagen

My responses are as follows; First, I contend that Anders' suggestion that God's preserving a kernel, at least in part, amounts to the compaction of the organisational structure of a life into a 'small portion of the simples' (Anders 2011, 34) whose activity constituted the organism's life has no support from van Inwagen's writings. Second, I contend that a passage that might be taken as evidence for Anders' view cannot, in fact, be taken as evidence for Anders' view. Third, I contend that, even if we accept that the compaction of the organisational structure of a life into a small portion of the simples whose activity constituted the organism's life is possible, regardless of the fact there is no passage in van Inwagen that affirms it, we still have reason to think that van Inwagen could argue that the story Anders tells requires him to predicate of kernels a condition that can be fulfilled only by corpses. In consequence, van Inwagen could argue that the activity of the simples that compose a kernel (as described by Anders) cannot, in fact, constitute a suspended life. Fourth, I contend that one need not employ Anders' description in order to account for God's preserving a naked kernel and, since there is another account available to van Inwagen, he need not agree with Anders' account.

With regards to my first contention, the only defence I have is to state that I cannot see any section of MMM that explicitly shows where, in van Inwagen's work, one can get the idea that 'God's preserving a kernel' means, at least in part, the preservation of a 'small portion of the simples' (Anders 2011, 34) whose activity constituted p's life at t_1 and, consequently, allows for the continuation of persons. I shall, then, turn to my second contention, and suggest that the passage that Anders might have in mind does not support his view.

It appears to me that Anders had a specific section of van Inwagen's 1990 book *Material Beings* in mind when he coined the term 'compaction.' I think Anders had this passage in mind because, first, this passage occurs on the two pages where van Inwagen discusses whether or not an organism could survive death and, second, it is the passage where van Inwagen discusses 'suspension,' a condition of Anders' definition of a kernel (i.ii.i). I will quote the passage in full and argue that what van Inwagen means here is different from what Anders suggests in MMM if this passage is what Anders had in mind when coining the concept 'compaction.'

Van Inwagen writes that upon death person p's life that

> 'consisted mostly of chemical reactions and various relatively large-scale physical processes (the breaking and establishing of chemical bonds, the movement of fluids under hydraulic pressure, the transport of ions),' is '"squeezed into" various small-scale physical processes (the orbiting of electrons and the exchange of photons by charged particles). Its life became the sum of those sub-chemical changes that underlie and constitute chemical and large-scale physical unchange' (van Inwagen 1990, 147).

According to this passage, upon death the life of an organism is 'squeezed into' various small-scale physical processes and sub-chemical changes. This squeezing may be what Anders has in mind when developing compaction; that is, Anders might think that this squeezing is synonymous with the compaction of the organisational structure

of the suspended life into a 'kernel,' where this kernel is a small portion of the simples whose activity constituted the organism's life. I think, however, that this is incorrect. This is because the squeezing that is taking place in this passage is not a squeezing of the organisational structure of the suspended life into a 'small portion' (Anders 2011, 34) of the *simples* that composed that person at the time of that person's death, 'a pellet' as Anders says (Anders 2011, 35). Rather, squeezing, according to van Inwagen, refers to the squeezing of a life or large-scale physical processes into underlying *processes*. This distinction between simples and processes is important. There is no reason to think, from what van Inwagen writes, that the person has, in some way, shrunk in size; Steve does not get 'compacted' (Anders 2011, 34) if this means that Steve comes to be composed by a 'small portion of the simples' whose activity constituted p's life at t_1 (Anders 2011, 34). Rather, it seems that, according to van Inwagen, the life of an organism comes to be constituted by the activity of the simples caught up in submicroscopic 'processes' (van Inwagen 1990, 147) that underlay the large-scale macroscopic processes that constituted the life of the organism before death. We might say that, according to this passage, 'compaction' is a matter of scope and not a matter of size.

It must be noted that this is not to say that a person is merely a process. A person (according to van Inwagen) is a human organism, and human organisms are composed of simples the constituents of which are caught up in lives. It seems to me that van Inwagen is merely arguing the processes that the simples are caught up in at the moment of 'compaction' change[16] from large-scale macroscopic processes to small-scale submicroscopic processes. The person, then, is still identical with the organism that the simples compose, but the simples that compose that organism are, at one time, caught up in large-scale macroscopic processes and, at a later time, caught up in small-scale submicroscopic processes. This change in scope, however, does not amount to the end of one life and the beginning of another life. Rather, van Inwagen allows the submicroscopic processes to suffice as constituting the numerically same life as the life of the organism before its life processes changed from macroscopic to submicroscopic.

If Anders is offering an interpretation of the above passage (van Inwagen 1990, 147) when he discusses compaction then I hope to have shown that it is inconsistent with what van Inwagen describes. Anders thinks that, for van Inwagen, compaction amounts to God's preserving an essential, small portion of the simples that composed person p at time t_1, while van Inwagen, it seems, actually thinks that compaction amounts to the squeezing of the life of a person from large-scale macroscopic processes into small-scale submicroscopic processes. These are clearly two different accounts.

Anders may respond, however, by arguing that he does mean to refer to a suspended life as a life that has been 'squeezed' into sub-chemical processes, and that 'compaction' merely refers to the possibility that the activity of a small portion of these simples might (in virtue of their retaining their multi-grade interrelations with one another) still constitute a suspended life. There is a further reason, however, to think that there is still a response open to van Inwagen. In particular, it's possible that van Inwagen could reject the claim that a suspended life (a life that has ceased but can begin again) can really exist in virtue of the activity of the simples that compose a kernel (as Anders describes), since the suspended life that exists in virtue of the activity of the simples that

[16] Or, more specifically, get 'squeezed' (van Inwagen 1990, 147).

compose the kernel cannot begin again in the way that a suspended life that exists in virtue of the activity of the simples that compose a corpse could (the only example of a suspended life beginning again that van Inwagen gives). I shall now explain why.

Consider a cryogenically frozen corpse and a corpse that has not been cryogenically frozen. The only condition that van Inwagen cites to differentiate between the microscopic activity of a cryogenically frozen corpse and that of a corpse that has not been cryogenically frozen (perhaps a corpse that 'has been subject to the normal, "room temperature" processes of biological decay for, say, 15 min' (van Inwagen 1990, 147)) is the fact that the 'microlevel activity of a cryopreserved [corpse] is disposed to expand into its normal state at the moment sufficient energy should become available to it' (Eberl 2008, 71) while the microlevel activity of a corpse that has not been cryogenically frozen is not disposed to expand into its normal state at the moment the same amount of energy should become available to it. Since this is the case, for any corpse, that corpse exists in virtue of a suspended life if and only if the microlevel activity of that corpse is disposed to expand into its normal state at the moment a certain amount of energy should become available to it.

The question now becomes whether Anders' description of van Inwagen's kernel is something of the kind that, like a cryogenically frozen corpse, is disposed to expand into its normal state at the moment that amount of energy should become available to it. On the face of it, one might think that van Inwagen's answer would be yes. Van Inwagen states the condition for the life of an object, O, being disposed to begin again after its life has been suspended in the following passage: '[i]f a life has been suspended, it can begin again; if the requisite energy is supplied to the simples whose activity has been suspended, in a uniform, non-disruptive way, it *will* begin again. (Perhaps a gentle prod will be required; an electrical stimulus to the heart of the just-thawed cat, or something of that sort.)' (van Inwagen 1990, 147–148). We can state this condition as follows:

> Disposition condition = an object, O, is disposed to have its suspended life begin again if the requisite energy is supplied to the simples whose activity has been suspended.

If we understand a kernel to exemplify the relevant microlevel activity that disposes an object to expand into a life again (perhaps 'multi-grade interrelations between simples' as Anders describes) then the kernel, so long as it is transferred into a pile of simples arranged humanwise, can 'enliven a new organism that bridges the "gap" between death and new life'[17] (Anders 2011, 34) and, in consequence, can be said to be disposed to begin again.

It is possible, however, for van Inwagen to disagree. Van Inwagen could argue that the above disposition condition is not merely a sufficient condition but a necessary and sufficient condition for an object O's being disposed to have its life begin again. That is, van Inwagen could argue that a life that has been suspended can begin again and all that

[17] Anders does not tell us what the 'transfer of this naked kernel to enliven a new organism' means, precisely, but I take it to mean the following: God takes this kernel and places it among a collection of simples arranged humanwise in just the right place and supplies the kernel with sufficient energy for the suspended life to begin again such that the collection of simples arranged humanwise gets caught up in the processes resulting in that collection of simples arranged humanwise becoming a human organism with the same life.

it takes for it to begin again is that a certain amount of energy (a gentle prod, an electrical stimulus to the heart muscle or something of that sort) be supplied to the simples whose large-scale activity has been suspended. If this is the case then the life that is constituted by the activity of the simples that compose a kernel is not disposed to begin again just on the supply of the relevant amount of energy, since a kernel has to be supplied with the requisite energy for life to begin again *only after it has been placed into a pile of simples arranged humanwise* i.e. it requires a further condition. In consequence, van Inwagen could argue that the disposition condition can be fulfilled only by corpses and not by kernels (as described by Anders).

Anders may respond by arguing that there is no reason to think that the disposition condition offered by van Inwagen is both a necessary and sufficient condition for object O's life's beginning again. Anders could argue that on his account the disposition condition is satisfied, but that, for the restarting of the life of a kernel, a further necessary condition has to be met.

While this is a plausible response it seems to be of little help. So long as it is possible for van Inwagen to argue that a life that has been suspended can begin again, if and only if, the requisite energy is supplied to the simples whose large-scale activity has been suspended, then van Inwagen can reject Anders' supposition that the activity of the simples that compose a kernel can constitute a suspended life. It remains to be seen whether or not van Inwagen will argue this, but it is certainly a possible solution.

Moreover, in the light of van Inwagen's discussion of suspension in *Material Beings*, I think that it is not unreasonable to think that van Inwagen would argue that a suspended life exists only in virtue of an object that has retained its large-scale structural integrity such that the suspended life can begin again if the requisite energy is supplied to the simples whose large-scale activity has been suspended, and that no suspended life exists in virtue of a kernel that retains only small-scale structural integrity in virtue of the various multi-grade relations between the simples that compose it. He writes, for example, that upon suspension a human organism's 'life became the sum of those subchemical changes that underlie and constitute chemical and large-scale physical unchange' (van Inwagen 1990, 147). This is contra PDAC, which requires large-scale physical change.

This brings me to my third contention. Van Inwagen, it seems, could argue that the naked kernel that God preserves is something else, something different from Anders' suggestion. Van Inwagen could argue, for example, that the kernel is the preserved functioning brain, or preserved functioning relevant part of the brain, of a human organism. That is, perhaps at the moment of death (disruption) God removes the brain of the human organism and replaces it with a brain simulacrum. The brain simulacrum and accompanying pile of simples arranged humanwise then get placed in the grave, while the brain of that human organism is immediately hooked-up to an appropriate 'life-support system' (van Inwagen 1990, 177) that maintains the ongoing life of the organism. I cannot offer a full description here (space will not allow it) of how God might achieve this, or explain how this is, in some relevant sense, different from van Inwagen's own simulacrum model, but this is not my aim. My aim is simply to show that since there is an alternative description of what a naked kernel might be, van Inwagen need not accept Anders' account and the alleged impossibilities that come with that account.

Anders may respond, however, by arguing that there are good reasons to reject my disposition condition. Anders could argue that organisms undergoing open-heart or brain-transplant surgeries, for example, would fail to meet the disposition condition. That is, organisms on the operating table undergoing these procedures, it seems, would not be disposed to have their lives begin again only on the supply of a certain amount of energy (e.g. they also need their organs repairing/returning to them first). This is problematic because, given what I have said above, if an organism is not disposed to have its suspended life begin again, then that organism has ceased to exist and, in consequence, the pile of simples arranged humanwise on the operating table can never again compose that organism. But, it seems, we would want to say of organisms that have had their hearts (I will consider brain-transplants shortly) momentarily stopped (or even, perhaps, removed) that they have not ceased to exist.

There are two responses available to me (and van Inwagen if he does, indeed, accept the disposition condition) one for each example (open-heart surgery and brain-transplant surgery). First, I will consider open-heart surgeries. It seems to me that van Inwagen could (and, perhaps, would) argue that the disposition condition, strictly speaking, does not apply to organisms that have had their hearts stopped for surgical purposes. This is because organisms that have had their hearts stopped (and for which, as is the case in open-heart surgery, a cardiopulmonary bypass machine has been temporarily put in place) can still be considered 'alive' in the usual sense of the word (i.e. the simples that compose them are still caught up in large-scale macroscopic processes) and, therefore, they have not had their lives suspended. In consequence, there is no need to argue that the human organisms without functioning hearts are disposed to have their suspended lives begin again. Van Inwagen, it seems, would agree. When writing about organisms that have had their hearts stopped, for example, he notes,

> 'I seem to remember that when the heart stops beating, the human organism will sometimes cause its arterial walls to contract, in a valiant and pathetic attempt to cause the blood to circulate; this indicates that the cells that compose the stricken man are still caught up in a continuing homeodynamic event' (van Inwagen 1990, 146).

In other words, the fact that the human organism can cause its arterial walls to contract is evidence that the life of the human organism is still continuing, even though the heart of that organism has stopped pumping blood.

Second, consider an organism undergoing a brain-transplant. On the one hand, van Inwagen refers to the virtual object on an operating table that has had its brain removed (awaiting a new brain) as a 'brain-complement' (van Inwagen 1990, 173). While, on the other hand, the brain that has been removed from the brain-complement and has been hooked-up to an 'elaborate mechanism' (van Inwagen 1990, 170) 'is now a radically maimed man, a man who is about as maimed as it is possible for a man to be' (van Inwagen 1990, 172). That is, the removed brain of an organism (provided it is still alive) is the organism. The 'brain-complement' (van Inwagen 1990, 173), then, is not disposed to have its life begin again on the supply of the requisite amount of energy, because the simples that virtually compose a brain-complement do not preserve the relevant relations at the microscopic level, and the brain-complement, therefore, is not an organism. This, however, should not be considered problematic. Most of us, it seems

to me, would agree that a human organism without a brain (or, more specifically, a brain-complement) is not disposed to have its life begin again. Moreover, the brain that has been removed from the corpse and has been hooked-up to an elaborate machine would be, according to van Inwagen, the persisting organism, and it need not be the case that it itself be disposed to have its life begin again on the supply of a certain amount of energy, since it is still (like the organism hooked-up to a cardiopulmonary bypass machine) alive. Van Inwagen could argue then that his story actually supports our intuitions regarding the brain-complement; the brain-complement is not disposed to have its life begin again, and it need not be the case that the brain hooked-up to an elaborate mechanism be disposed to have its life begin again.

It may be further argued, however, that another problem arises. Although the brain that has been hooked-up to an elaborate mechanism may not need to meet the disposition condition (since its life has not been suspended), it now no longer seems to meet van Inwagen's own self-maintaining condition for lives. This is because the brain now needs some form of active external support—the elaborate mechanism—to keep it going. Van Inwagen seems to disagree. Van Inwagen writes that give a severed head, or brain for that matter, 'the proper environment and it will maintain itself…a life-support system for the head will be no more than an elaborate pump' (van Inwagen 1990, 177–178). Put simply, it will still be the brain 'doing the work' of keeping the life going and not the elaborate machine. Likewise, we can say the same about an organism undergoing open-heart surgery. The cardiopulmonary bypass machine is no more than an elaborate pump. In both cases, it is the brain that is still maintaining and directing the homeodynamic event.

Anders may, finally, respond by arguing that, if the disposition condition were true, then this would not allow van Inwagen to explain bodily resurrection after the destruction of a corpse. I will make two points in response. First, I think that it is consistent with van Inwagen's materialist metaphysics to say that if an organism *really* gets blown to bits by a bomb (it is destroyed) its life will cease and, consequently, that organism can never exist again. Strictly speaking, then, organisms (or freshly dead corpses for that matter) cannot undergo complete destruction if they are to survive death.[18] Second, however, this is not a problem for van Inwagen. As stated above, van Inwagen could (and would, I think) argue that, although he does not have an explanation of the actual mechanism by which God might raise from the dead a human organism whose corpse has been destroyed, he does have a metaphysically possible description of how God might achieve the resurrection. He will argue that, although it seems to us that the organism has been blown to bits, in fact, moments before that organism got blown up, God could have preserved a remnant of that organism, a naked kernel 'in the way [van Inwagen has] imagined' (van Inwagen 2009, 327) (i.e. the simulacrum model) or in some very similar way (as mentioned above, God could, for instance, at the moment of each man's death, remove the freshly dead corpse, functioning brain, or central nervous system for safekeeping and replace it with a look-alike).

[18] One may object to Anders' model on this point alone. Anders argues that when an organism gets blown to bits by a bomb its life gets suspended and compacted, but van Inwagen says that when an organism gets blown to bits by a bomb its life ceases. I thank Daniel Hill for pointing this out.

In sum, it seems that there is a plausible response that can be given on behalf of van Inwagen to Anders' argument and, in consequence, Anders fails to demonstrate the falsity of van Inwagen's metaphysics but, rather, demonstrates the falsity of some other (but similar) materialist metaphysics.[19]

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[19] This is, of course, still valuable but it is not what Anders is professing to do.