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Editorial

Our small organisation has rejoiced under a proliferation of titles, originally The Victoria Institute, we prefer to use the name Faith&Thought now, as this stands a chance of pointing the hearer to our website www.faithandthought.org.uk where they can find out more about us. One obsolete former title was 'The Philosophical Society of Great Britain' which perhaps reflects the idea that we concern ourselves with a wide variety of 'thought' relating to faith, not just the strictly scientific. This edition embodies something of that breadth in the three papers presented. One addresses matters of existential philosophy from a highly personal and very readable viewpoint. The other wrestles with the doctrine of *Totum Simul* and asks how current theories within modern physics may speak to this. Finally, we have a personal reflection from a practicing doctor (a field which encompasses both science and philosophy – when done well), who describes how he combined his professional life with his personal mission as a Christian. We would like to invite other contributions on a similar theme of 'Being a Christian in my Workplace'. If any of you feel able to share your stories, however brief we would be delighted to publish them. Retirement is no bar to contributing from your reflections!

We are looking forward to our 2017 Symposium (14th October) on the subject of 'Handling Biblical Violence'. We have four excellent speakers lined up and as usual we hope to make audio recordings available if you are unable to attend and we will publish the papers in full in our April edition. Looking further ahead our plan for the 2018 Symposium is to look at the subject 'Is the Bible 'Fake News' –

evidence from Archaeology.' Planning is at an early stage so check the website for more details in due course.

UK readers should also have received a complimentary copy of our a new book from our Chairman, Bob Allaway, titled 'God Chat'. This short work addresses big questions of Theology in a simple and approachable format as a series of prayers. If you could use further copies then please let me know – these are available for just £2 including postage.

I would like to once again invite any correspondence, papers, book reviews or letters to drapkerry@gmail.com.

The Outsider – a personal reflection on existential alienation

Candy (Cen) Zhang

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I. Introduction: the alienated existence of the Outsider

> These men traveling down to the City in the morning, reading their newspapers or staring at advertisements above the opposite seats, they have no doubt of who they are…These men are in prison: that is the Outsider's verdict. They are quite contented in prison—caged animals who have never known freedom.[1]

Don't most people identify with 'these men' who live their everyday life without doubting who they are? How dare the Outsider assert that most people are caged animals in prison! Who is this Outsider?

[1] Wilson, *Outsider*, 154.

The Outsider[2] is a novel by Albert Camus, written in the first-person perspective of Meursault—an indifferent man who feels happier and less alone after he opens himself to the indifference of the world.[3] The novel presents an absurd picture of human existence. Confronting the absurdity of existence throws humankind into an existential alienation, which is experienced as a nausea by Roquentin, the main character of Sartre's novel *Nausea*, who is often hit by a feeling of nausea and finally finds out that this feeling comes from his penetrating and superfluous existence.[4] Both Meursault and Roquentin are iconic representatives of the Outsider, who is existentially alienated from the others 'because he stands for Truth'[5]—the truth of humankind's alienated existence.

With the technological developments in transportation, telecommunication and the Internet, we live in a much more convenient world for people to gain information about the others, to travel to other places and to connect with the others, compared with the world in which Camus and Sartre lived in. Perhaps human existence in today's world is no longer alienated?

In this personal reflection, I'll recall my first experience of going abroad which is also my first experience of existential alienation. As I landed in a foreign land, I realized that I became the Outsider; however, I escaped from the prison of 'these men' only to find myself in another prison called alienation. Is a prison-break possible? Or do I have to agree with Kaufmann that a worth-living life would always involve alienation and we need to focus on how to increase our ability to cope with alienation?[6]

II. A Satrean hopeless 'solution'

A. A sudden realization

After a 13-hour flight, I am standing on the ground which was once on the other side of my world. Who I was in the past is not who I am now. Who I was has gone, along with the reality that has been left behind at home, 11,809 kilometers away. It is August the 1st, 2006. Here I am, and I need to make this unavoidable decision: who will and shall I be?

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[2] *L'Étranger* is translated as *The Outsider*, or *The Stranger* in English.
[3] Camus, *Stranger*, 122-123.
[4] Sartre, *Nausea*, 181-185.
[5] Wilson, *Outsider*, 13.
[6] Kaufmann, 'Alienation,' lvi.

If I knew that Roquentin shares a similar experience, perhaps I would have felt less alienated at this moment. When Roquentin sees a seat on an ordinary tram, oddly, that ordinary seat appears to him exceptionally alien even unrecognizable, as he records in his journal:

> I murmur: 'It's a seat,'…But the word remains on my lips, it refuses to settle on the thing…Things have broken free from their names…it seems ridiculous to call them seats or to say anything at all about them. I am in the midst of Things, which cannot be given names.[7]

This is a sudden realization that the unreflected everyday order and stability in the surroundings might just be a meaningless assembly of nameless things; in other words, 'this order and stability were its own creation, able to be discarded at will.'[8] If I replace my previous way of being with a new one, I am no longer myself because of the new way of being, yet my old way of being is no longer mine either. Hence, this sudden realization of the surroundings is simultaneously 'an experience of the dissolution of self and so has been described as an experience of non-being.'[9]

If I am a non-being, have I ever existed as myself at all? What Self has just dissolved? According to Sartrean thought, this non-being Self is a non-reflective consciousness, which is a false Self that 'exists on the level of objects in the world.'[10] Therefore, this non-reflective consciousness belongs to a human existence that is not so much different from the existence of animals or lifeless things, because a person is truly herself only in her commitments and dedication to the world, not in herself being absorbed by the world.[11]

Several Existentialist thinkers have recognized such false self as one undistinguishable constituent among a group, which Kierkegaard calls 'the crowd,' Nietzsche describes as 'the herd,' and Karl Jaspers expresses with 'the mass.' This group is characterized as an unthinking multitude sharing and being dominated by

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[7] Sartre, *Nausea*, 180.
[8] Caws, *Sartre*, 71.
[9] Dilman, 'Sartre,' 254.
[10] Sartre, *Being*, 284.
[11] Dilman, 'Sartre,' 249.

the conventional value system without any realization of the surroundings,[12] so that they wouldn't have realized that they are in fact a group of non-beings.

Therefore, although a sudden realization of the surroundings seems alienating even terrifying, it provides the necessary step for a person to break from the non-being group and from her false Self. Without an opportunity brought by such realization, a person is concealed from the fact of false Self by her 'engagement in a social world in which values are prescribed.'[13] August the 1st, 2006 is the day: my opportunity has come.

B. A trap of bad faith

So I have discovered my false Self and I am determined to discard it, but still, the question remains: who will and shall I be? I can't stay an alienated existence forever, stuck in between a false Self that is gone and a true Self that is still missing. I look around at people passing by: should I wear what they wear? Talk as they talk? Behave as they behave? Where should I look for the determinate essence of my existence?

Existentialists such as Sartre would stop me from defining my Self by unthinkingly looking at the external world outside myself, because only inauthentic existence 'is molded by external influences, where these be circumstances, moral codes, political or ecclesiastical authorities, or whatever.'[14] If I absorb the values from my new surroundings unthinkingly, I would be in a state of bad faith, deceiving myself to make life go on.[15] Therefore, I can't give in to the surroundings and let myself be defined by things outside myself, otherwise, I will step into enslavement and become a non-being again.[16]

The trap of bad faith is likely to be set by the idea that essence defines existence. However, Sartre would argue that it is the other way around: existence precedes essence because 'there is no fundamental essence, no fixed human nature. We are

[12] Macquarrie, *Existentialism*, 90.
[13] Caws, *Sartre*, 71.
[14] Macquarrie, *Existentialism*, 161-162.
[15] Evans, *Existentialism*, 49.
[16] Parson, 'Hell,' 35.

born, we exist, but our essence or nature is not predetermined.'[17] There is nothing out there for me to find and to define my true Self.

C. A freedom to act

I, simply, exist, alone. This is precisely why I feel a tremendous sense of alienation at this limbo moment, as Roquentin expresses, 'I was floating…and I choked with fury at that huge absurd being.'[18] Alienation is unpleasant, which is often associated with anguish by Sartre, but at the same time, alienation is a vacuum, pregnant with plenty of opportunities to create one's essence.

I am alienated, so I am liberated. Sartre celebrates this freedom: 'Thus I, who…am my possibilities, am what I am not and am not what I am.'[19] I am so free to become my true Self by creating my Self with my decisions. Therefore, alienation is an unpleasant yet necessary 'clearing of the way towards more genuine forms of commitment and relationship.'[20] Alienation is part of the solution to overcoming alienation.

Now I need to act. As I act, my actions will give me essence so that my true Self will emerge. As I act, I am the subject, so I need an object for my action to be acted on. If my object is a lifeless thing such as a desk, I could knock on it, write on it, even break it, but I couldn't become its friend. Action on a lifeless object would not overcome my alienation. Therefore, I need to act on living beings.

If I want to establish a relationship with you—a living being—with my action, I am the subject of my action and you are my object. However, when I see you as my object, I am objectifying you and denying you to be an equal living being. If you accept my objectification, you let yourself be defined by me, an external outsider, so that you fall into the trap of bad faith and become a non-being, which is no different from a lifeless thing. Consequently, the object of my action in overcoming my alienation becomes a lifeless non-being, with whom no genuine relationship can be built, as explained earlier. I fail to overcome my alienation.

Alternatively, you may refuse my objectification but look at me as your object and seek to objectify me. If I accept your objectification, I fall back to a non-reflective

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[17] Jackson, 'Look,' 241.
[18] Sartre, *Nausea,* 192.
[19] Sartre, *Being*, 287.
[20] Dilman, 'Sartre,' 260.

non-being with no realization of the surroundings, no sense of alienation, hence, no motivation to overcome alienation and build genuine relationships.

D. A hell of the Other

I am a subject, and you are a subject too. Any attempt in building a relationship between us, as illustrated above, will lead to conflict—'domination, manipulation and control.'[21] Sartre's play *No Exit* illustrates this tragic situation vividly. In this play, Garçin, Inez and Estelle are locked in a windowless room as they enter the afterlife after death, and they can't avoid each other's presence—torturing presence. Garçin describes that they three are 'chasing after each other, round and round in a vicious circle.'[22] Indeed, as Garçin proclaims, 'hell is—other people!'[23]

The subject-object duality in any action with the aim to build a genuine relationship between two living existents inevitably leads to two possibilities as Sartre correctly points out with an example of sexual relations:

> [E]ither I affirm myself as a subject, and in so doing reduce the other to a mere object for me. And then my "love" for the other degenerates into a desire to appropriate the other's body for myself. Or else, I allow myself to be transformed into an object by the other. And then my "love" for the other degenerates into a readiness to allow myself to be used and abused by the other.[24]

Love, according to Sartre, is an impossible relationship; we are left with either sadism or masochism,[25] so is any other relationship.

Hence, I could never overcome my alienation through taking actions to build a genuine relationship with the Other, but I must live in hell, as 'there is no exit from the situation of community—"other people."'[26] I am in fact another character in the play *No Exit*, locked in a windowless room with all these alien yet inseparable

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[21] Macann, 'Hell,' 229.
[22] Sartre, *Exit*, 30.
[23] Sartre, *Exit*, 45.
[24] Macann, 'Hell,' 230.
[25] Macann, 'Hell,' 230.
[26] Parsons, 'Hell,' 30.

others. The 13-hour flight hasn't taken me out of the locked room, but only put me in another locked room next door.

Moreover, as I become conscious of the Other's objectifying look, I am not only alienated from the Other, but from myself. In *Being and Nothingness*, Sartre describes a jealous lover peeking from a keyhole. The man suddenly hears doorsteps in the hallway, and he becomes aware of 'himself as being observed by another. He is both a subject of experience, and an object for the Other.'[27] This realization forces the man to look at himself from the perspective of the Other, as Sartre explains, 'to apprehend myself as seen is, in fact, to apprehend myself as seen *in the world* and from the standpoint of the world.'[28] Consequently, I become my own consciousness' object.[29]

In other words, I am alienated from myself by the look of the Other. My realization of the Other's look is basically the same with my sudden realization of the surroundings, which leads me to the limbo state of alienation and to a need to overcome this alienation. After all, all the above attempts only make me a 21st-century Sisyphus, up and down the hill repeatedly forever.

E. A hopeless 'solution'

In modern literature, this state of entrapment is symbolized by Kafka's court, Wittgenstein's fly-bottle and Niebuhr's self, which tells the same story 'of unproductive living, of slow strangulation, of death in the womb.'[30] I exist, trapped in alienation. All possible scenarios end in failure: I could not look for essence from outside, otherwise I would become an inauthentic non-being; so I create my essence in actions which either objectify the Other or accept objectification of the Other, and neither choice builds a genuine relationship; in addition, as I realize the objectifying look of the Other, I become alienated from myself.

Does this mean that I am trapped in this alienation forever? The answer is no, not because there is a way out of entrapment, but because this entrapment will not last forever: my existence has a finite end—death. Even if I try again and again like Sisyphus in my actions with a goal of creating genuine relationships despite

[27] Jackson, 'Look,' 243.
[28] Sartre, *Being*, 287.
[29] Jackson, 'Look,' 243.
[30] Parsons, 'Hell,' 32.

predicted failure as explained above, I am only free to do so as a subject before death. When I die, I am 'just an object among other objects'[31]—a lifeless object.

Death is both a symbol of the finitude of human existence and 'the final proof of the absurdity of both men and the universe.'[32] Oddly, death appears to be the only plausible solution to my existential alienation, as Camus says in *The Myth of Sisyphus*, 'there is but one truly serious philosophical problem and that is suicide.'[33]

As shown above, a Satrean solution to the existential alienation is to act as an authentic subject in order to build any genuine relationships. Such action is grounded by a freedom to discard the false Self by breaking from the unthinking multitude. However, this freedom is meaningless because it is only 'freedom from' that enables a person to choose, but it is not 'freedom to' since the choice is an absurd one.[34] Therefore, a Satrean solution would inevitably lead to a Sisyphean way of being.

Although Camus fully acknowledges the absurdity of the human condition in the world, he 'asks us simply to accept somehow this absurd universe, to make an arbitrary, indeed absurd, act of the will,'[35] because 'one must imagine Sisyphus happy.'[36] As Evans correctly points out, 'this is not an answer, only a resolve to quit seeking an answer.'[37] If I adopt this happy Sisyphean way of being, my existential alienation remains unsolved; moreover, I fall into the trap of bad faith—letting Camus to define my self.

Am I just a restless spirit as Matthew Arnold describes in *The Grande Chartreuse*?

> Wandering between two worlds
> One dead
> The other powerless to be born[38]

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[31] Sire, *Universe*, 105.
[32] Macquarrie, *Existentialism*, 155.
[33] Camus, *Myth*, 1.
[34] Evans, *Existentialism*, 49.
[35] Evans, *Existentialism*, 50.
[36] Camus, *Myth*, 119.
[37] Evans, *Existentialism*, 50.
[38] Arnold, quoted in Parsons, 'Hell,' 32.

If I will and shall be alienated in this locked room as long as I exist, why should I continue existing? If death is the only solution to our existential alienation, why should we continue living?

III. In the beginning was intimacy (Genesis 1-2)

A. Intimacy in the created order

In the beginning, God created the heavens and the earth, as well as humankind in His image (Genesis 1:26a). While the first creation account (Genesis 1:1-2:3) describes the physical order in God's creation, the second creation account in Genesis 2:4-2:55 has an emphasis on relational order, which is portrayed as a 'development of the theme of intimacy.'[39]

In the process of creating humankind, God breathed the breath of life into the nostrils of the man and the man became a living being (Genesis 2:7), which shows that 'something of God's own self becomes an integral part of human identity;'[40] therefore, God and humankind has an intimate relationship.

According to the second creation account, the relationship between humankind and the ground is intimate as well. The first man was created from the dust of the ground. In Hebrew, 'man' is taken from 'ground.'[41] The phonetic similarity is not a coincidence but 'a key to the interrelatedness of the persons, objects, or concepts embodied in the words.'[42] Therefore, there is a close association between man and the ground.

B. The first man's aloneness problem

After presenting the intimacy in humankind's relationship with God and with the ground, the text takes a surprising turn. In Genesis 2:18, God said that the first man didn't have a companion and it was not good for him to be alone—the theme of intimacy is threatened by the first man's aloneness problem.

All beasts and birds, which were created from the dust of the ground just like the man, were brought to the man, but the man named each animal yet found no suitable

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[39] Hauser, 'Genesis,' 20.
[40] Hauser, 'Genesis,' 20.
[41] 'Man' in Hebrew is אָדָם; 'ground' is אֲדָמָה.
[42] Hauser, 'Genesis,' 21.

companion (Genesis 2:19-20). Structurally, the naming episode is formed as an inclusio with 'a companion suitable for him' (Genesis 2:18) and 'no suitable companion was found' (Genesis 2:20), which stresses the man's aloneness by the repetition of the phrase ('a companion like him').[43] In Semitic culture, the name of a thing or a person reflects its nature;[44] therefore, the naming process for the man is his discerning process of each animal's nature in order to check whether or not any animal has a nature that is suitable to be his companion. The man 'is forced to recognize his fundamental difference from the animals;'[45] the aloneness problem remains unsolved.

C. The unique creation of the first woman

Starting from Genesis 2:21, the text introduces a radical innovation in creation: God created the first woman, not from the dust of the ground, but from the rib taken out of the first man (Genesis 2:22); the verb for the creation of the man and the animals is יָצַר, different from the verb בָּנָה used to describe God's unique creation of the first woman.[46] In Hebrew, the word 'man' and the word 'woman' are phonetically related,[47] so this word play between the two words vividly depicts the close relationship between man and woman.[48] Although the phrase 'a suitable companion' is not employed to describe the woman, the creation of the woman is clearly God's solution for the man's aloneness problem that man and woman are companions to each other, who 'complement each other within the community.'[49]

Moreover, according to Genesis 2:24, man and woman became one flesh. 'Becoming one flesh' is often understood to be sexual union; however, the intimacy referred by 'one flesh' goes beyond a sexual intimacy.[50] In Genesis 2:25, a personal pronoun is added to the woman, so the woman is now described as 'his woman,' which shows that the identity of the man becomes 'the man of his woman,' while the woman's identity becomes 'the woman of his man.' In other words, the man's and

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[43] Hauser, 'Genesis,' 23.
[44] Asselin, 'Dominion,' 289.
[45] Naidoff, 'Genesis,' 5-6.
[46] Hauser, 'Genesis,' 23.
[47] 'Man' in Hebrew is אִישׁ; 'woman' is אִשָּׁה.
[48] Hauser, 'Genesis,' 24.
[49] Lim, *Grace*, 207.
[50] Lim, *Grace*, 208.

the woman's identities are inter-related; they are not two separate 'I's, but one single 'we.'[51]

Unfortunately, none of these aspects of intimacy in relationships has been experienced by me in the airport on August the 1st, 2006, or Roquentin in Sartre's *Nausea*, or any existentially alienated Outsider. I know no one around and see these foreign faces no different from non-living objects, let alone an intimate relationship with them as one flesh in togetherness. Something must have gone wrong.

IV. A wrong move: humankind has fallen into alienation (Genesis 3)

A new character—the serpent, appears unexpectedly after the climax of intimacy at the end of Genesis 2; and it comes with an antagonistic message: God doesn't wish the best for humankind so humankind shouldn't trust and obey this God. The woman listened to the serpent, adopted its suggestion, ate the forbidden fruit and shared it with the man.

Then everything changed. After eating the fruit, the man and the woman hid themselves from God (Genesis 3:8), as they became 'uncomfortable in the presence of God,'[52] forming a sharp contrast with the previous intimate image—God creating humankind in His own image.

Besides alienation in God-human relationship, inter-human relationship changes from intimacy to alienation as well. Previously, the man saw the woman as his companion and he was referred to as the woman's man (i.e. Genesis 3:6). By contrast, in Genesis 3:12, the man now talks about the woman not as 'his woman' but simply as 'the woman.' Therefore, to the man, the woman, who used to be his 'bone of bone and flesh of flesh,' has now become 'an object, not a companion.'[53] In Genesis 3:11, God addresses the man with singular pronouns and singular verbs, which depicts how the man now 'stands before God completely alone,'[54] no longer one flesh with the woman; the woman is also addressed alone by God (Genesis 3:16).

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[51] Naidoff, 'Genesis,' 6.
[52] Lim, *Grace,* 143.
[53] Hauser, 'Genesis,' 30.
[54] Hauser, 'Genesis,' 30.

Before eating the fruit, the man and the woman were naked, but they didn't see this as a shameful thing that needs covering. However, in Genesis 3:7, they had a sudden realization of their nakedness and started making coverings. Thus, this sudden realization of nakedness marks their awareness of the change from intimacy to alienation: the man and the woman don't want the other to see their nakedness so they made coverings (Genesis 3:7)—they are alienated from each other; they don't want God to see their nakedness so they hide among the trees (Genesis 3:8)—they are alienated from God; moreover, the man and the woman couldn't see their own nakedness as they cover themselves (Genesis 3:7)—they are alienated from themselves.

According to Genesis 3:5-6, eating the fruit was motivated by a desire to be like God, knowing good and evil. In Hebrew, knowing good and evil is a common idiom referring to omniscient knowledge which only God has.[55] Therefore, wanting to be like God is seen to be a positive attempt in relating to God more intimately, but in fact, blurring the distinction between two sides in a relationship is not a sign of intimacy, but a cause for alienation, because it is synonymous with not wanting to be human any more, which denies humankind's distinctive Self and eventually has led humankind to the estrangement from God,[56] as well as from each other.

Eating the fruit must be humankind's wrong move, which is why I, or Roquentin, or any existentially alienated Outsider, fail to experience the intimacy described in Genesis 1-2. However, there is nothing I could do to go back to intimacy from alienation: if I allow the difference between the Other and me and try to develop a relationship with such Other, I would either objectify the Other or get objectified; if I try to eliminate the Otherness and be like the Other, I would not reach intimacy but fall into alienation.

V. Buber's alternative relationship paradigm

A. Two relations: *I-It* and *I-Thou*

Maybe Sartres was right, I am 'condemned to be free'[57] that my existence is so superfluous that it just overflows any relationship that I try to establish;[58] or maybe

[55] Asselin, 'Dominion,' 288; Dougherty, 'Fall,' 222.
[56] Hauser, 'Genesis,' 27.
[57] Sartre, 'Existentialism.'
[58] Sartre, *Nausea,* 184.

there is a way out. For Sartre, existence precedes essence; therefore, I primarily exist. By contrast, Buber thinks that 'in the beginning is relation;'[59] therefore, I don't primarily exist alone but I primarily exist in relation to the Other; moreover, I could only live as an *I* in a relation.[60]

According to Buber, there are two types of relations, which he calls two primary words: *I-It* and *I-Thou*. The *It* in *I-It* is 'an object of perception and experience without real connexion' [61] with *I*; so the primary word *I-It* is 'the word of separation,'[62] or the word of alienation. On the other hand, the primary word *I-Thou* 'establishes the world of relation.'[63] *Thou* is not an object; when I speak *Thou*, I speak no thing so that I won't objectify the Other as a thing, which allows me to stand in relation with *Thou*.[64]

The primary word *I-Thou* is spoken with the whole being of the speaker while the primary word *I-It* is not.[65] Traditionally, a human being is characterized by having reason,[66] who can use her cognitive ability to tell the differences between her and the Other. Buber challenges this traditional anthropology by advocating an idea of 'the wholeness of man.'[67] Both the Ego of German idealism and the Cartesian "I" only engage with the thought of a person, but they fail to engage with her whole being.[68]

Therefore, because I have always engaged with the Other with my cognitive part, I always end up in seeing the Other as *It* and in finding myself in *I-It* alienation; moreover, the solitary me is not even fully human,[69] because the true Self is not what Sartre describes as a radically free yet alienated conscious Self, but a dialogical

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[59] Buber, *I*, 13.
[60] Gordon, *Controversy*, 117.
[61] Buber, *I*, 20.
[62] Buber, *I*, 17.
[63] Buber, *I*, 5.
[64] Buber, *I*, 4.
[65] Buber, *I*, 3.
[66] Friedman, *Buber*, 79.
[67] Friedman, *Buber*, 78.
[68] Wahl, 'Buber,' 476.
[69] Jospe, 'Encounter,' 141.

Self who only emerges in interpersonal encounter.[70] Indeed, as Buber summons, 'all real living is meeting.'[71]

B. The inevitable move from *I-Thou* to *I-It*

If I want to get out of alienation, I must engage with the Other with my whole being and as a result, my dialogical true Self would emerge. As I walk to the border, a custom officer starts talking to me. He is asking me questions. He is expecting my answers. He is inviting me into a dialogue. Is this my chosen moment? After a couple of lines of conversation and an exchange of smiles, I walk past the border and leave the custom officer behind.

Was that a Buberian encounter? I did feel related to the officer while we were talking, but as I overhear him talking now with another person with almost identical lines, I start doubting. Was he only treating me as an *It*—an object that needed to be inspected? Or was he just an *It*—an object as a part of an institution with 'no soul?'[72]

How could I know whether my encounter with the custom officer is an *I-Thou* relation or an *I-It* relation? I have no epistemological assurance that the custom officer and I spoke the primary word of *I-Thou*, because no cognitive contents can be taken from an *I-Thou* relation.[73] Moreover, any objective knowledge of the *Thou* is unattainable,[74] otherwise the *Thou* would degenerate to an *It*. The only assurance lies in a mystical knowledge which Buber describes as 'intuitive, self-validating, ineffable, momentary, and contentless.'[75] This knowledge is an absolute kind which cannot be doubted; [76] since I am doubting now, I probably don't have that knowledge.

Even if I had succeeded in obtaining the knowledge that I did speak the primary word *I-Thou*, the genuine encounter has gone. At the present moment, I am again alienated. The custom officer, who was the *Thou*, is just an object of my memory, so

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[70] Borowitz, 'Self,' 45.
[71] Buber, *I*, 9.
[72] Gordon, *Controversy*, 127.
[73] Charmé, 'I-Thou,' 166.
[74] Schuster, 'autobiography,' 134.
[75] Charmé, 'I-Thou,' 162.
[76] Charmé, 'I-Thou,' 166.

is the encounter itself; in other words, the *I-Thou* has disappeared and the *I-It* appears and remains. Because 'the world of *It* is set in the context of space and time,'[77] the force of *It*—of objectification and the power of the past are the same.[78] As I exist as a temporal being, all my present moments will inevitably become my past experiences, which belong to the world of *It*. In fact, Buber himself admits that the history of an individual and the history of humankind 'indicate a progressive augmentation of the world of *It*.'[79] Therefore, even if I had a genuine encounter, I could never stay in that *I-Thou* encounter. As time goes forward, I would always find myself alienated again in an *I-It* relation, and all these *I-It* relations pile up and become the history of my existence.

VI. Conclusion: waiting for a new dialogue

Sartre boldly unveils the ugly reality of humankind's existential alienation—every human being is the Outsider. He encourages the Outsider to exercise her radical freedom to choose the essence for her existence. However, there only remains two choices: choose to objectify the Other or be objectified by the Other; choose to end one's existence. Neither choice is a solution to humankind's existential alienation.

Buber presents the *I-Thou* relation paradigm as an alternative to the subject-object alienation paradigm. However, it is practically impossible to enter into an *I-Thou* relation in real life for two reasons. First, one needs to have a mystical knowledge of her *I-Thou* relation, without epistemological assurance based on any cognitive content. Second, an *I-Thou* relation can only happen at the present moment, which would inevitably fade into an *I-It* relation as the *Thou* would always become an object in the past.

It is August the 1st, 2006. I stand alone at the airport. I just found out my inability to go back to the intimacy which existed in the beginning in Genesis 1-2. I am alienated, because I am fallen, as the first man and the first woman chose to be in Genesis 3. I am and will be in alienation as long as I exist, unless a *Thou* appears and saves me—a *Thou* who can be known with epistemological assurance yet can

[77] Buber, *I*, 23.
[78] Wahl, 'Buber,' 191.
[79] Buber, *I*, 27.

remain mystical beyond cognitive data, a *Thou* who can meet me as a temporal being yet can always be with me beyond the limit of time. Is there such an *Thou*?

'Hi, just wondering if you have heard of Jesus before?'
A new dialogue has begun.

Epilogue
Today is May the 3rd, 2016.

Ten years ago, surrounded by strangers at a foreign airport, I discovered a crack on my life journey called existential alienation. I got stuck and waited meaninglessly, like Vladimir and Estragon in *Waiting for Godot*. Godot didn't come. Jesus did. He closed the crack with Himself and invited me into an everlasting dialogue of loving communion.

Two hours ago, I was worshipping God in the chapel, surrounded by people of various backgrounds. Now I am back in my room, finishing this reflection alone. In either situation, I am no longer alienated, because I know with faith in Christ that I am in the loving communion with the triune God, and thus I am also intimately related to numerous people throughout history across the world as children of one Father belonging to one body of Christ in one Spirit.

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Physics and (Fore)Knowledge: Does Contemporary Physics Support the Doctrine of *Totum Simul*?

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Introduction

Classical theology, standing in the tradition of figures such as Boethius, Augustine and Aquinas, affirms God's transcendence of time, his atemporality. In fact, many Christians, even those without significant theological education, will have some conception of God being "outside of time". This concept may be described as *totum simul*, the ability for God to experience the whole of time "all at once" as an eternal present. There is debate as to whether this can truly be called atemporal, or whether God possesses certain temporal features, whilst still perceiving the whole of space-time. [1] However, for the sake of this essay, unless noted, God's proposed atemporality shall be regarded as a transcendence of human time and thus atemporal from a human perspective, even if possessing some arguably temporal qualities.

Physics has much to say on the nature of time, considered throughout history, from Newton's equations of motion, to the publication of Stephen Hawking's famous work *A Brief History of Time.* Physics may therefore play a valuable part within theological enquiry, particularly in this area, as Davies notes:

> …it cannot be denied that science does have something to say about religious matters. In topics such as the nature of time, the origin of matter and life, or causality and determinism, the very conceptual framework in

[1] cf. Leftow, 'Eternal', 21ff., Pannenberg, 'Systematic', 366.

> which the religious questions are posed can be altered by scientific advances.[2]

Russell makes the case that as physics radically shifts this conceptual framework, theologians who engage with it find their presuppositions rightfully challenged:

> Although highly tentative and difficult to access due to their mathematical abstraction, the scientific discussions of time ought to help theologians and philosophers of religion critically rethink their own presuppositions about time and eternity as they articulate in new ways God's action in the world.[3]

This essay is consequently a tentative attempt to consider the implications of physics on our understanding of God's relationship to time. The scientific consensus has changed several times over the last few centuries and, although there is some progression, each continues to say much on the nature of time and has not been entirely superseded by that which succeeds it. We shall therefore survey a range of views of time currently supported by physics, beginning with an Einsteinian "block universe", moving on to quantum theory and, finally, quantum cosmologies and multiverse theories.

The Concept of *Totum Simul*

Firstly, a brief introduction to *totum simul* is required. This is the view of God's foreknowledge advocated by classical theology and, although there are variations to the view, there are common features of most interpretations which are of interest in the examination of contemporary physics.

At the heart of *totum simul* is how God is said to exist in his eternal nature. For those holding the position, God's eternity is not everlastingly temporal–he does not continue to experience a sequence of time indefinitely–but rather he is eternally atemporal. This means that he transcends time and consequently time is contingent upon him.[4] As such, time itself is a creation, as affirmed by Augustine: 'You made time itself. No times are coeternal with you since you are permanent.'[5] Lewis helpfully uses the analogy of an author: 'God is not hurried along in the Time-

[2] Davies, *God*, 218.
[3] Russell, 'Finite', 325.
[4] Augustine, *Confessions*, 267.
[5] Augustine, *Confessions*, 230.

stream of this universe any more than an author is hurried along in the imaginary time of his own novel.'[6] However, as he recognises, this illustration is imperfect as an author also experiences time, whereas God does not in *totum simul.* Polkinghorne points out a similar shortcoming, which is that God, in this case, appears in his own work, both in the incarnation and by his agency.[7]

As a result of God's atemporal existence, his "foreknowledge" is not the accurate prediction of the future, nor is it the knowledge of future events.[8] Instead, it is the present perception of the whole of space and time simultaneously. As Boethius writes:

> God has an always eternal and present nature, then his knowledge too, surpassing all movement of time, is permanent in the simplicity of his present, and embracing all the infinite spaces of the future and the past, considers them in his simple act of knowledge as though they were now going on.[9]

One of the great benefits of such a view is that it allows the theologian to reconcile human free will with God's foreknowledge: 'In a sense, He does not know your action till you have done it : but then the moment at which you have done it it is already "Now" for Him.'[10] Whilst there is some debate over this assertion,[11] the question of free will is central to the doctrine of *totum simul*, as seen by the questions of Boethius to "Lady Philosophy".[12]

Similarly, God's atemporal nature affects one's understanding of divine agency within human time. Sansbury points out that God may still respond to temporal events as 'action from the past, even as far back as creation, could be labeled responsive so long as "responsive" regards the *motivation* for an action rather than when it occurs.'[13] In this way, all prayer may be heard 'in his one eternal conscious

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[6] Lewis, *Mere*, 142f.
[7] Polkinghorne, *Science*, 84.
[8] Calvin, *Institutes*, 926., Aquinas, *Theologiæ*, 49.
[9] Boethius, *Tractates*, 427., cf. Pike, *Timelessness*, 53ff.
[10] Lewis, *Mere*, 145. cf. Ganssle, 'Introduction', 5f.
[11] cf. Peacocke, Scientific, 129.
[12] Boethius, *Tractates*, 395ff.
[13] Sansbury, 'False', 114.

act, and in that same eternal conscious act, he wills the answers to our various requests.'[14]

Totum simul is not without its theological objections, raised, for instance, by those who question whether God can truly understand temporality if he is atemporal,[15] or who have justifiable queries over an entirely unchangeable God.[16] It is queries such as these which have led to alternative views of God's relation to human time, which may also be compared to *totum simul* in the light of contemporary physics.

Time in an Einsteinian Block Universe

The seventeenth and eighteenth centuries saw dramatic progress in the physical sciences: with the rise of Newtonian mechanics, physicists were able to describe much of the world around them, with sufficient precision to make accurate predictions. Such was the success of Newton's work that it led to a reworking of the philosophical idea of determinism, with a newfound emphasis on the apparently unchanging laws of nature.[17] Classical enlightenment physics claimed that time is a closed process, which progresses through an unbroken causal chain. The French mathematician and philosopher Laplace therefore suggested that a sufficiently intelligent being could predict every event in the universe perfectly;[18] Newtonian mechanics seemed capable of handling any problem, so long as the initial conditions were known.[19] As Brown asserts, "The mechanical laws of the universe both determined and predicted every event.'[20] The universe was thought to be fundamentally regular and predictable and thus scientific determinism became the standard model of the universe until the early 20th Century.[21]

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[14] Ganssle, 'Introduction', 10.
[15] Hasker, 'Absence', 183. However, the incarnation would suggest that he would indeed understand temporality. Similarly, Barth suggests that the ascended Christ would experience some form of time. Barth, *Dogmatics*, 121.
[16] Ganssle, 'Introduction', 6., Peacocke, *Scientific*, 128.
[17] Taylor, 'Determinism', 363-364.
[18] Laplace, *Probabilities*, 4. Such a being is often referred to as Laplace's "demon".
[19] Harré, 'Laplace', 392.
[20] Brown, 'Quantum', 478. There are those who dispute that Newtonian mechanics and classical physics necessarily implies determinism (see for example, Earman, *Primer*, 2. and Hoefer, 'Causal'.) but the system does seem to naturally lend itself to such thinking, especially when compared to later developments in physics.
[21] Hawking, *History*, 53., Newton himself believed that God intervened on very rare occasions in the movements of the planets to correct their orbits. Polkinghorne, *Faith*, 143.

One of the implications of a Newtonian worldview is the idea of absolute frames of reference, such as absolute time.[22] This suggests that there would consequently be a universal present moment, enabling one to affirm a universal simultaneity to events. As Hawking affirms, 'this is what most people would take to be our commonsense view'.[23] However, this has been challenged in dramatic fashion by the theories of Albert Einstein.

If the work of Newton defined classical physics,[24] the work of Einstein in the early years of the 20th Century had a similarly profound effect upon how physicists and philosophers viewed time.[25] Einstein proposed the *special theory of relativity* in 1905 and, in 1915, followed with the *general theory of relativity* to describe gravity in a way consistent with his former theory.[26] Although seemingly counterintuitive, there is a large amount of experimental evidence which supports Einstein's work,[27] including the recent confirmation of gravitational waves.[28] As shall be seen, the metaphysics resulting from these two theories are highly significant in the discussion on *totum simul*.

The special theory of relativity came about as a result of the search for the "ether" in which light was theorised to travel,[29] as well as in attempting to integrate Newtonian mechanics with Maxwell's equations for electromagnetic fields.[30] It reconciled the finite velocity of light with the premise 'that the laws of physics appear the same to observers moving at different speeds.'[31] Einstein used the example of a railway carriage, with a man walking along it in the direction of travel. It is logical to conclude that the total velocity of the man would be the velocity of the carriage, plus the velocity of the man relative to the carriage. If the carriage has a lamp attached to the front of it, it would also seem logical that the total velocity of the light traveling forward would be that of the train, plus that of the photon emitted from the lamp.

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[22] Sharpere, 'Newtonian', 495.
[23] Hawking, *History*, 18. cf. Stannard, 'Developing', 47f. Osborn disputes this, suggesting that because Newtonian physics treats it as independent of the physical world, classical physics sought to eliminate time from consideration. Osborn, 'Physics', 123.
[24] Qi, 'Time', 437.
[25] Saunders, 'Relativity', 277.
[26] Coleman, *Relativity*, 44., Hawking, *History*, 29.
[27] Rindler, *Introduction*, 2.
[28] Leake, 'Cosmic'., Rees, 'Gravitational'.
[29] Coleman, *Relativity*, 45.
[30] Polkinghorne, 'Time', 62.
[31] Hawking, *Updated*, 162.

However, as light has a finite velocity of 300,000 km./sec., this cannot be the case and therefore there is an apparent contradiction.[32]

The solution to this example may be found in Einstein's understanding of time: as opposed to Newton's absolute time, Einstein's theories advocate relative time. This harmonises the apparent incompatibility.[33] Instead of sharing a universal time, 'each individual has his own personal measure of time that depends on where he is and how he is moving.'[34] Furthermore, the flow of time is affected by the speed at which an individual travels,[35] as well as by their proximity to objects of large mass.[36] This makes 'the older concepts of absolute space and absolute time untenable',[37] denying a universal simultaneity.[38]

One of the results of Einstein's theories of relativity is that time is described as a dimension. As such, absolute time and space are replaced by a four dimensional spacetime continuum.[39] As with much of relativity, such ideas may seem strange, as Einstein recognised:

> The non-mathematician is seized by a mysterious shuddering when he hears of "four dimensional" things, by a feeling not unlike that awakened by thoughts of the occult. And yet there is no more common-place statement than that the world in which we live is a four-dimensional space-time continuum.[40]

Considering time as the fourth dimension, the equations describing relativity do not distinguish between the past and the future and have no way to define the present.[41] This dimension is also finite, with a beginning and an end.[42]

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[32] Einstein, *Relativity,* 17-20. The example is continued to be used throughout the book.
[33] Einstein, *Relativity,* 27.
[34] Hawking, *History*, 33.
[35] Einstein, *Relativity*, *3*7.
[36] Coleman, *Relativity*, 114. cf. Qi, 'Time', 440.
[37] Rindler, *Introduction*, 57.
[38] Coleman, *Relativity,* 72., Qi wisely points out, however, that God's view may still constitute absolute time. Qi, 'TIme', 441
[39] Rindler, *Introduction*, 57.
[40] Einstein, *Relativity*, 55.
[41] Wilkinson, *God*, 114.
[42] Hawking, *History*, 33.

There are a number of ways in which the space-time continuum may be interpreted. Einstein's view is that the flow of time itself is a psychological illusion, asserting that concepts of space, time and events 'are free creations of the human intelligence, tools of thought'. [43] The universe is therefore seen as being fundamentally atemporal.[44] This understanding of the universe lends itself to the concept of the "block universe", in which the universe may be envisioned as a static "block" of spacetime: 'Every event in this four-dimensional entity is posited as a space-time slice, thus there is no ontological difference between them at all.'[45] As such, as Hawking makes clear, 'in general relativity it became meaningless to talk about space and time outside the limits of the universe.'[46] Despite this there are other interpretations of the mathematics of the theories of relativity, as shown below.

There are other counterintuitive features of Einstein's work which further show the departure from classical physics: for instance, the potential for time travel. [47] However, although 'Einstein's work may be seen as the close of classical physics',[48] Einstein still saw value in Newton's work, stating it could describe the movement of heavenly bodies with a 'delicacy of detail little short of wonderful.'[49] That being said, an Einsteinian block universe rightly requires examination in reference to *totum simul* due to its radically different implications to classical physics.

The Implications of a Block Universe on *Totum Simul*

The Einsteinian block universe may be the metaphysical concept of time considered in this essay which is easiest to reconcile with *totum simul*. Firstly, it supports Augustine's view that time is bound to space.[50] In such a view of time, an atemporal God would be capable of perceiving the whole of the "block" simultaneously, making it highly compatible with *totum simul*. This is in contrast to Newton's view, in which God himself constituted time.[51] Holding to an atemporal understanding of God's foreknowledge would imply a fundamentally atemporal block universe, as God's knowledge must be truthful, as Polkinghorne asserts, 'Not only can God take

[43] Einstein, *Relativity*, 141.
[44] Polkinghorne, *Faith*, 132.
[45] Qi, 'Time', 447f.
[46] Hawking, *History*, 33.
[47] Hawking, *Updated*, 162.
[48] Brown, 'Quantum', 479.
[49] Einstein, *Relativity*, 13.
[50] Augustine, *Confessions*, 255.
[51] Newton, *Principia*, 941., Craig argues that contemporary physics has reduced time to a physical concept at great loss. Craig, 'Elimination', 134.

an atemporal view of such a universe; it really is the only right perspective from which to consider it.'[52] However, there is debate as to whether God's foreknowledge is atemporal in this way and, if so, whether God may truly know temporal events. Yeung objects accordingly, stating that 'Time is reduced to a psychological trick of our minds. This approach also seems to prevent God from knowing us in our temporality, since time is not so much real as an illusion [in the block universe].'[53] Furthermore, Polkinghorne disputes that the universe is atemporal: '[relativity's] inability to express the present moment is better understood as indicating the inadequacy of a reductive physicalism rather than as abolishing the idea of a moving present.'[54]

Whilst the debate over the authenticity of God's perception of human experience in an atemporal universe may be important in determining the value of *totum simul* as an proposition, a block universe still appears to be the metaphysical interpretation of time most suited to such an approach. However, there are a number of theological and philosophical issues posed by an atemporal block universe which make the view harder to reconcile with *totum simul*. Firstly, there is the danger both of deism and determinism.

If the creation of the universe was a singular act of creating the whole of space-time, deism and determinism are the natural conclusions. As Polkinghorne objects, 'The God who simply surveys spacetime from an eternal viewpoint is the God of deism, whose unitary act is that frozen pattern of being.'[55] God would not intervene, because he wouldn't have to. In a sense, his agency in the world is entirely predetermined and occurs once, atemporally. Similarly, if the entirety of space-time was created at once as a fixed block, there seemingly would be no room for human free will and determinism would be the result.[56] Although Polkinghorne suggests that a block universe doesn't have to be determinist, as 'the causal relationships between events are not logically settled',[57] he presents little evidence to support this position, recognising 'that there is a certain tendency to associate atemporality and determinism together.'[58]. It seems likely then that a single act of creating a block

[52] Polkinghorne, *Science*, 77., cf. Polkinghorne, *Faith*, 137.
[53] Yeung, 'Omniscience', 186.
[54] Polkinghorne, *Faith*, 134f.
[55] Polkinghorne, *Science*, 79.
[56] Wegter-McNelly, 'Fundamental', 164f.
[57] Polkinghorne, 'Time', 67.
[58] Polkinghorne, 'Time', 68.

universe may indeed be determinist. As it was of great concern to Boethius and Aquinas, in exploring *totum simul*, to preserve human free will whilst affirming God's perfect foreknowledge, although determinism may not be entirely incompatible with *totum simul*, it does seem to go against the core principles of such an understanding.[59] A block universe need not be deist however, as, from a human perspective, God would be acting throughout time, being indistinguishable from acting truly temporally.

Another challenge to the block universe is found in its understanding of human temporal experience and there are those who are unhappy with reducing time to a psychological construct. Many of these objections are rooted in a rejection of physicalist reductionism:[60] human experiences of time are seen as 'essential',[61] forming a distrust of metaphysics which deny them. Furthermore, an essentially atemporal universe cannot account for the "arrow of time".[62] Why is it that time flows from the future into the past? Similarly, why does the amount of entropy in the universe increase, as described by the second law of thermodynamics, rather than decrease? Although there is debate as to what constitutes an "arrow",[63] it is clear that a block universe has no definitive answer to the question of why time seems to flow as it does (even if merely psychologically). Similarly, as mentioned above, Polkinghorne suggests that the weight of human experience of the moving present is enough to question the assertions that it is merely psychological (from a reductive physicalism).[64] However, it is obvious that even in a psychological explanation, the illusion of time has powerful consequences. Allegedly, Ben Johnson, in reply to an opponent who believed space and time to be an illusion, kicked a rock and

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[59] Boethius ponders whether there is 'any freedom of our will, or does this chain of fate also bind the motives of men's minds?' Boethius, *Tractates*, 391.
It may be argued that the degree to which one denies human free will (as understood in incompatibilism) in a determinist system may depend upon the degree to which one affirms the non-physical aspect of a human being. If the human mind is entirely dependent upon the physical processes of the brain, then a closed system would surely make human choice determinist. However, if there is a non-physical aspect to the human person which at least partially determines one's actions, this would seemingly not be included within the closed system and consequently this would add a degree of openness to the system, roughly analogous to the agency of God. It may well be that a human soul would fulfil this function.
[60] Polkinghorne, 'Time', 68. cf. Craig, 'Eternity', 75.
[61] Wegter-McNelly, 'Fundamental', 164.
[62] Wilkinson, *God*, 119.
[63] Hawking suggests the arrows are thermodynamic, psychological and cosmological, whereas Polkinghorne adds 'increasing complexity' and 'causal ordering'. Hawking, *History*, 145., Polkinghorne, 'Time', 65f.
[64] Polkinghorne, *Faith*, 134f.

exclaimed 'I refute it thus!'.[65] Although humorous, Johnson's response clearly assumes that a psychological perception of the world isn't just verisimilitudinous. Such a jump from epistemology to ontology appears unwarranted, a charge which may be applied to Polkinghorne's objections. As shown by much of physics, counterintuitive assertions need not be incorrect ones.

One final objection to the use of a block universe in support of *totum simul* may come from the nature of special relativity itself. Qi suggests that the fathers of classical theology would have objections to implications of the theory :

> According to the [special theory of relativity], an event which is present for an observer in one inertial frame may be future or past for another one in another inertial frame. Furthermore, none of these perspectives is privileged and there is, consequently, no absolute 'now' in the universe. Whereas Augustine might be irritated by the negation of an absolute 'now', Boethius would be angry with the consequent deduction of this negation: the negation of absolute simultaneity, that is, any simultaneity is relative to a reference frame.[66]

Qi also suggests that the special theory of relativity does not exclude the existence of a 'privileged perspective' which may be seen as God's absolute metaphysical time, as opposed to a position outside of time.[67] In this way, alternative interpretations of special relativity need not support *totum simul*. It is worth stating however that even interpretations which reject a block universe may allow for *totum simul*. Yeung, for instance, rejects the block universe understanding but puts forward an alternative which preserves *totum simul* without the issues of determinism, relying upon different frames of reference. In this view, time is not merely an illusion, yet God is atemporal. He knows human temporality by translating it into atemporality, analogous to a four-dimensional geometric transformation.[68] The question still remains however if God *truly* knows human temporality in such an understanding.

The block universe clearly has some difficulties in being used without qualification in support of *totum simul*. However, as has been shown, Einstein's theories in many

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[65] Hawking, *History*, 18.
[66] Qi, 'Time', 440.
[67] Qi, 'Time', 441., cf Craig, 'Elimination', 131.
[68] Yeung, 'Omniscience', 189f.

ways altered the scientific view of time, allowing an understanding of God as atemporal to be spoken of in scientific terms. Especially when compared to later scientific developments, the Einsteinian block universe has much which potentially supports *totum simul*.

Time as an Open Process

Although Einstein's theories radically changed the way physicists viewed the world, subsequent developments had perhaps an even more tumultuous effect. These theories advocate a kind of unpredictability and uncertainty that are at odds with classical physics and have proven to be hard to reconcile entirely with Einstein's work. Many scientists interpret this uncertainty as an inherent property of the universe, with potentially a dramatic effect upon cosmology and an understanding of *totum simul.*

Quantum Theory

Quantum theory, the first of the theories that promote unpredictability, arose initially from the study of electromagnetic waves. Up until the early years of the 20th Century, light had been thought of in terms of waves. However, in trying to understand why hot objects only emitted certain frequencies of light, Max Planck proposed that 'energy could only be absorbed and emitted in discrete packets (or quanta).'[69] This fitted with experimental data but went against the classical model. It seems that, rather than there being two equal models of the behaviour of light, light itself exhibits wave-particle duality.[70] Other experiments continued to undermine the classical model, leading to many counterintuitive conclusions. In 1924, de Broglie proposed that there were circumstances in which particles could be observed to have wave-like properties. This could particularly be seen in the famous double slit experiment. A beam of electrons (or other, sub-atomic particles) was fired towards a screen, via two slits, resulting in a refraction pattern on the screen behind, a property of waves interacting.[71] What was particularly puzzling however was that, even when the beam was reduced to individual electrons, the pattern still occurred. Within the framework of classical physics, this could only mean that the single particle travelled through *both* slits simultaneously.[72]

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[69] Osborn, 'Physics', 129.
[70] Schiff, *Quantum*, 3.
[71] Osborn, 'Physics', 130.
[72] Hawking, *History*, 58f., Schiff, *Quantum*, 5-7.

Similarly puzzling is the role of the observer in quantum theory, demonstrated in Heisenberg's uncertainty principle. This states that one may know *either* the velocity *or* the position of a sub-atomic particle. The knowledge of one means that the other cannot be known precisely.[73] Heisenberg initially explained this as an epistemological limitation of experimental methods, but physicists now typically see it as 'a fundamental, inescapable property of the world.'[74] Observation, it seems, affects the outcome of events. As Osborn states, quantum effects proved to be a significant issue for scientists: 'By the early 1920s, these anomalies had grown into a gaping hole in the fabric of physics.'[75] Quantum physics was the result of attempting to explain these anomalies. Rather than the strict determinist causality of classical newtonian physics, quantum theory describes the universe in terms of probabilities. One cannot exactly predict the outcomes of quantum events, instead, 'At the quantum level objects appear to change their state over time without any sufficient mechanical cause, evolving in a purely random manner'.[76] Quantum theory may also have aspects which are hard to reconcile with an Einsteinian understanding of the universe (especially general relativity),[77] with Einstein famously remarking that '"God does not play dice"'.[78] Polkinghorne similarly suggests that quantum theory does not support a block universe as 'it does not encourage the view that the flux of time is an illusion'.[79] Some form of time is generally assumed in the equations that govern quantum theory and the 'collapse of the wave-packet' may introduce an irreversible element to the universe,[80] although this is debatable.

The metaphysic resulting from quantum theory radically challenges the Newtonian determinist models, although there are several different interpretations of quantum theory–some of which are compatible with determinism. Bohm, for instance, proposes there to be hidden variables which affect experimental results.[81] This has

[73] Schiff, *Quantum*, 7f., Davies, *Physics*, 102f.
[74] Hawking, *History*, 55., Padgett, 'Heisenberg', 179., McGrath, *Science*, 100. However, Polkinghorne points out that it is uncertain how the micro world of quantum theory links to the macro world. See Polkinghorne, *Faith*, 143.
[75] Osborn, 'Physics', 130.
[76] Wegter-McNelly, 'Fundamental', 167.
[77] Hawking, *History*, 60f.
[78] Hawking, *History*, 56.
[79] Polkinghorne, *Science*, 78. Although, elsewhere Polkinghorne himself suggests that 'Quantum theory is not of itself a sufficient basis for a universal metaphysics.' Polkinghorne, 'Quantum', 340.
[80] Healey, 'Time', 296f.
[81] Polkinghorne, *Faith*, 144.

been shown to be 'empirically equivalent' to the standard interpretation.[82] Since quantum theory may be interpreted in these ways, Polkinghorne suggests that:

> It is…perfectly possible in the twenty-first century to hold an account of the physical world that is as unproblematically objective and deterministic as was the eighteenth-century mechanics of Newton and Laplace.[83]

However, in order to address the issues surrounding the understanding of time as an open process, and to assess its compatibility with *totum simul*, it shall be assumed that quantum theory describes an ontological reality of the universe, not merely an epistemological limitation. As such, the universe shall be regarded as fundamentally unpredictable, with observers affecting reality by their observation; this so-called Copenhagen interpretation 'rejects the existence of an objective world independent from human observation. We create our own reality by our perceptions.'[84]

Chaos Theory

The second of the theories which are used in support of an unpredictable universe is chaos theory. This shows that tiny variations in the initial conditions of a complex system have increasingly dramatic effects upon the way that system develops. A dramatic example of this is given by the example of a snooker table. If one strikes the cue ball, the predictions of where the balls end up after a minute of motion (which, admittedly, is an improbably powerful strike) would have to consider variables as minuscule as the gravitational pull of electrons on the other side of the galaxy.[85] Prior to the development of the theory, it seemed that any system, modelled with sufficient precision and computing power, would be predictable. Now it seems that the number of variables involved in complex systems make long term predictions impossible: the computing power required would simply be too great to be contained in the universe. Wildman disputes the conclusion of indeterminism, suggesting that:

> It makes little sense to appeal to chaos theory as positive evidence for metaphysical indeterminism when chaos theory is itself so useful for strengthening the hypothesis of metaphysical determinism: it provides a

[82] Hoefer, 'Causal'.
[83] Polkinghorne, *Faith*, 144.
[84] Brown, 'Quantum', 482.
[85] Osborn, 'Physics', 149

> powerful way for determinists to argue that many kinds of apparent randomness in nature should be subsumed under deterministic covering laws.[86]

However, he also points out that chaos theory does place a limit on the extent that one can prove determinism.[87] Additionally, Chaos theory may show the increasing effect of quantum indeterminism in the macro world, providing a mechanism for tiny interactions to eventually have significant effects.[88] In tandem, these two theories therefore contribute to a highly unpredictable view of the universe. Another factor in support of this indeterminism is Hawking's postulation that information may be lost in black holes. As the universe is full of many tiny black holes, in certain circumstances there could be a great loss of information, rendering prediction impossible.[89]

The Implications of an Open Process on *Totum Simul*

The view of the universe as fundamentally unpredictable has been seen by some to oppose *totum simul* and to support alternative theological views of God's relationship to time, particularly open theism. In this view, in opposition to *totum simul*, God is thought to be within time and his knowledge is perfect, but only of what has already occurred; the future is not settled and thus cannot be perfectly known. Boyd, for instance, suggests that quantum physics shows that the world may be broadly predictable, but not to the level of individual particles; analogously, humanity as a whole may be predictable, but not the actions of individuals.[90] Boyd, whilst recognising the determinist nature of chaos theory, also suggests that it 'supports the coherence of the openness view of the future insofar as it demonstrates that predictability and unpredictability are complementary, not antagonistic, principles.'[91] Such unpredictability seems irrelevant, however, if talking of the ultimate observer, who is still proposed to have perfect foreknowledge of all *potential* actions. As Wilkinson points out, chaos theory does not rule out a Divine

[86] Wildman, 'Mathematical', 84.
[87] Wildman, 'Mathematical', 84.
[88] Although the relationship between the macro and the micro world is not fully understood. cf. Polkinghorne, *Faith*, 148f., Crutchfield, 'Chaos', 36f.
[89] Wilkinson, *God*, 71.
[90] Boyd, 'Open-theism', 18f. Some, such as O' Murchu, go even further, suggesting that quantum theory should radically change one's view of God's relationship to time, but also his very nature. O' Murchu, *Quantum*, 49-51, 197-203.
[91] Boyd, 'Open-theism', 18.

ability to predict, given the infinite ability to perceive and process data.[92] Furthermore, as argued by Beckman, if God truly does not know the outcomes of indeterminate events, then open theism should not be able to affirm God's knowledge of *any* future events at all.[93]

Furthermore, God's inability to predict future events is not a necessary conclusion of quantum theory or chaos theory. Sansbury, for example, offers three possibilities which preserve God's foreknowledge: quantum theory may actually be determinist and God would be capable of predicting the future in the method of Laplace's demon (which has been disregarded for the sake of this essay), God controls all the outcomes of all quantum events (so that his foreknowledge is more of a preordaining), or God transcends time (as in *totum simul).*[94] Viewing time as an open process, whilst affirming God's ability to predict is problematic, but if God does transcend space-time, the outcome of any indeterminacy will still be known to him, experienced as his present. In fact, as perfect *predictive* foreknowledge would be impossible if God is temporal in a truly indeterminate universe, as seen above in the discussion of open theism, quantum theory may lead one to affirm *totum simul* as a compatible means of foreknowledge. Peacocke disputes this, claiming that such a position would render all things predetermined: because quantum theory is genuinely open and God must be 'self-consistent and faithful to his own laws and constrained by the laws of logic and mathematics, as he must be for the concept of God to have any coherence at all',[95] he argues that God cannot be outside of time. This however seems to reduce God's freedom to a level of human understanding and raises many questions as to the descriptive power of physics and God's ability to transcend it.

Another more intriguing challenge to *totum simul* may be found in the role of the observer in the Copenhagen interpretation. If reality is constructed due to the observation of quantum events, this raises questions for both humanity's and God's roles. It is debatable what counts as an observer within the Copenhagen interpretation. Some postulate that a conscious observer is required, but Osborn rightly questions what level of consciousness constitutes observation. Was the

[92] Wilkinson, *God*, 70.
[93] Beckman, 'Quantum', 211-213
[94] Sansbury, 'False', 115.
[95] Peacocke, *Scientific,*128f.

universe entirely indeterminate before humanity?[96] If, alternatively, God is the prime observer, then there is the question of why anything is indeterminate at all.[97] In such a scenario, there are two challenges to *totum simul:* firstly, God would not be transcendent of physics and would be therefore unable to view events without affecting them; secondly, God would seem to need to be temporal in order for a progressive series of quantum indeterminate events to become reality. It seems then to preserve God's transcendence that, if the Copenhagen interpretation is correct, his observation would have to have no effect (unless he willed it to). If God is transcendent, then, as with the other objections raised by quantum theory, it seems that physics cannot be allowed to constrain him and thus *totum simul* is still possible in a universe where time is an open process.

In conclusion, whilst initially appearing to be antagonistic to *totum simul*, the view of time as an open process may actually lead one to affirm it as a useful way to affirm God's foreknowledge in a fundamentally unpredictable and uncertain universe. A view like *totum simul,* which does not rely upon *prediction,* but rather a form of *observation*, is seemingly compatible with quantum theory, even if not a natural outworking of it.

Time and Further Cosmologies

The development of quantum theory and other subsequent theories has led to a number of recent cosmological models with significantly different understandings of time. Consequently these may have dramatic effects upon our understanding of God's relationship to it. As there are too many competing theories and variations on those theories to discuss in detail here, we shall broadly focus on a limited number of key concepts.

Cosmologies Without an Initial Singularity

Firstly, a number of recent theories have proposed that time does not, contrary to previous scientific thought, have a beginning. With the development of the Big Bang theory and the subsequent work of Hawking and Penrose to show that relativity implied there was an initial singularity (in which the entirety of the universe was

[96] Osborn, 'Physics', 134. A modification of the slit experiment even suggests that 'mind can be made responsible for the retroactive creation of reality – even reality that existed before there were people.' Davies, *Physics*, 110f.
[97] Osborn, 'Physics', 135.

condensed into a tiny point),[98] physicists held that time had a definite starting point. This was seen favourably by many Christians as it seemed to affirm *creatio ex nihilo* and therefore God's transcendence of created time. The Vatican, for instance, approved these findings,[99] perhaps seeing them as a confirmation of Augustine's assertion that 'We do not find that time existed before this created realm'.[100] However, recent cosmological theories, stemming from quantum theory, have challenged this view and proposed a series of alternatives.[101] Applying corrections to the standard model, using quantum theory, changes the proposed initial conditions of the universe.[102] For instance, Hawking himself (working with Hartle) now holds that the universe did not begin with a singularity,[103] stating that if this is the case 'The universe would be completely self-contained and not affected by anything outside itself. It would neither be created nor destroyed. It would just BE.'[104]

These theories arise partly from the inadequacy of the standard cosmological model to describe the very early universe. Such were the temperatures at this time, that the laws of physics themselves were yet to be formed.[105] Consequently, the models that have been developed by observing the current behaviour of the universe are unable to retrospectively calculate the events of the period fractions of a second after the Big Bang.[106] Instead of a singularity, it may be theorised that time emerges causelessly from a quantum fluctuation in the background spacetime and is therefore a secondary construction of space,[107] with no boundary.[108] This derives from the attempt to use a quantum understanding of gravity to reconcile the theory of relativity and quantum theory.[109] Different models of quantum cosmology–and different interpretations of those models–vary as to their compatibility with a four-dimensional view of spacetime. Some even theorise that a quantum cosmological

[98] Hawking, *History*, 49-50.
[99] Hawking, *History*, 116., Rubenstein, *Worlds*, 146.
[100] Augustine, *Confessions*, 255., Stenger suggests that this was a misuse of the singularity however. cf. Stenger, *Multiverse*, 317ff.
[101] Wegter-McNelly, 'Fundamental', 165.
[102] Ali, 'Cosmology', 3.
[103] Hawking, *History*, 140f., Russell, 'Finite', 291f.
[104] Hawking, *History*, 136. Emphasis original.
[105] Stoeger, 'God', 175.
[106] There is however hope that the measuring of gravitational waves will allow greater observation. cf. Griffin, 'Gravitational'.
[107] Russell, 'Finite', 308., Davies, *Physics*, 215.
[108] Hawking, *History*, 140f.
[109] Polkinghorne, *Faith*, 138f.

model will supersede relativity.[110] However, recent work at the Large Hadron Collider suggests that some hoped-for confirmations of certain models of quantum cosmology may not be discovered. The search for confirmation continues.[111]

Multiverse Theories

Additionally, other theories postulate the existence of many universes, forming a multiverse. Whilst sounding like a product of science fiction, many physicists are seriously considering a multiverse cosmology as the model which fits best with their equations. There are many different versions of the multiverse theory, with different relationships to quantum cosmologies. Some come from quantum theory, such as the Everett multiverse, proposing 'that all the possible alternative quantum worlds are equally real, and exist in parallel with one another. Whenever a measurement is performed…the universe divides into two…Each set of inhabitants, however, perceives only their own branch of the universe.'[112] This suggests that, in this model, because 'not just each particle but the whole *universe* exists as a wave function of all its possible states',[113] every possible outcome to an event occurs in an alternative version of the universe, rather than only one possibility emerging in this universe (the "wave packet collapse"), changing the role of the observer. Other models come from string theory, which postulates the existence of many more dimensions.[114] In the variant known as eternal inflation, there are several possible multiverses: the multiverse may essentially be an infinite universe in which different areas are essentially their own universe (type I), alternatively universes may emerge as "bubbles" from before the Big Bang, becoming pocket universes (type II).[115]

Multiverse cosmologies may seem highly speculative, as they cannot be directly observed.[116] There is also suspicion that such theories are highly motivated by an atheistic presupposition as they provide one answer for the apparent "fine-tuning" of the universe for life, without requiring God.[117] As Davies remarks, 'one might find it easier to believe in an infinite array of universes than in an infinite Deity, but such a belief must rest on faith rather than observation.'[118] However, whilst multiverses cannot be proved, there may be scientific enquiry which indirectly supports their

[110] Russell, 'Finite', 312f.
[111] Cliff, 'Physics,' 5:10ff., IFJ PAN, 'LHC'., cf. Gibson, *Universe*, 113.
[112] Davies, *God*, 116.
[113] Rubenstein, *Worlds*, 179.
[114] Davies, 'Multiverse', 4., Gibson, *Universe*, 110.
[115] Davies, 'Multiverse', 4.
[116] The universes would be isolated from ours once disconnected. Davies, *God*, 117.
[117] Stoeger, 'God', 179., Rubenstein, *Worlds*, 17. This is denied by Stenger. cf. Stenger, *Multiverse*, 328.
[118] Davies, *God*, 174., cf. Osborn, 'Physics', 136.

existence.[119] Likewise, because there is a very real possibility that a multiverse theory becomes the leading cosmology,[120] it is worth considering such theories.

Implications of Quantum Cosmologies on *Totum Simul*

Contemporary quantum cosmological theories may not initially seem to support *totum simul* as one of the foremost theological issues with a cosmology which does not have a beginning to time is the effect this has upon God's transcendence. If time had no beginning, it is essentially "eternally" co-existent with God and therefore he cannot transcend it in the manner of *totum simul.* Hawking goes further, believing that this at least encourages deism, seeing no need for a creator and no room for divine agency.[121] Although the lack of a boundary may provide a means for the universe to spontaneously emerge out of nothing, Stoeger disputes this, pointing out that some physical laws must already have already been in place.[122] There is however significant debate surrounding this.[123]

Ultimately, the models currently used by physicists are, naturally, constrained by physics; it seems entirely plausible that a being that transcends physics could have made the background state from which time emerges. In this way, Russell suggests that God could have created time and that he '*creates the transition to time and time's arrow.'* [124] Drees similarly proposes that, as a quantum spacetime is essentially atemporal in some cosmologies, God's relation to time may still be usefully regarded as atemporal, as in a block universe (although he suggests that there may still be some order or flow to God's nature).[125] However, if this background truly has no flow of time, it raises questions as to its nature in relation to an atemporal God. If created atemporally, how is the manner of creation different from the eternal procession of the Son and the Spirit? Likewise, although it seems

[119] Davies, 'Multiverse', 9f., Rubenstein, *Worlds*, 187f. Furthermore, Page suggests that theology may support an Everett multiverse, although his arguments from total happiness seem unconvincing. cf. Page, 'Multiverse', 1ff.
[120] Stoeger, 'God', 185f.
[121] Hawking, *Time*, 140f.
[122] Stoeger, 'God', 178.
[123] Deltete, 'Cosmology', 312f.
[124] Russell, 'Finite', 324. Emphasis original. It is also possible that God created time to appear though it had no beginning, but such thinking quickly invalidates the whole of scientific enquiry, just as it is impossible to prove that God didn't create the universe a second ago.
[125] Drees, 'Cosmology', 342f.

likely that few theologians would want to affirm a co-eternal quantum state,[126] Peters points out the parallels between such an a state and transcendent atemporal eternity.[127] As mentioned, it is hard to see how such a situation would be reconciled with *totum simul*, as God's transcendence would seem doubtful.[128] Attempts at defending God's atemporality are clearly more difficult when discussing quantum cosmologies than in other areas of physics. Scholars seem to take more of a tentative stance, rather than strongly making the case for *totum simul* using these theories, as they have done with other models. It seems then that, although quantum cosmologies such as the Hawking/Hartle model may not be entirely incompatible to *totum simul*, they are much harder to reconcile with it.

Multiverse Theories and *Totum Simul*

Although a relatively recent scientific proposal, theologians and philosophers have a long history of discussing the ideas surrounding multiple worlds. Origen, for instance, speculated on the existence of worlds before and after our world.[129] Much like the modern conception of a multiverse (although successive rather than parallel), he reasoned that such worlds would be diverse, with events having different results and people acting differently.[130] Contemporary multiverse theories dramatically change the nature of God's foreknowledge, although to what extent varies by theory. An Everett multiverse, for example, is particularly challenging as, rather than a single outcome to an event being predicted (or, more properly in *totum simul*, timelessly observed), *every* possible outcome would occur in a version of the universe. For this reason, Polkinghorne suggests that a multiverse implies deism: 'this view abolishes any notion of a true history capable of accommodating or expressing God's economy of interacting relationship with creation. Overall, there is no time but only fuzzy quantum being.'[131] Furthermore, he states that 'it would also be fatal to an historically based religion like Christianity.'[132] This is perhaps the biggest concern for the theologian: theoretically, although God would potentially be

[126] It may be argued, however, that a pre-existent quantum space-time actually fits better with a plain reading of the creation account of Genesis chapter one, which suggests creation from a pre-existing chaos, than *creatio ex nihilo*.
[127] Peters, 'Time', 277.
[128] As proposed below, the consideration of higher dimensions may tentatively provide a means for God to remain transcendent in this cosmology.
[129] Butterworth, *Principles*, 83f.
[130] Butterworth, *Principles*, 87f.
[131] Polkinghorne, *Faith*, 141.
[132] Polkinghorne, *Faith*, 142., Whereas in an eternal inflation type I multiverse, it seems that God could remain atemporally transcendent over the whole "quilted" universe. This would therefore be no barrier to *totum simul*.

able to atemporally observe them all in the manner of *totum simul*, there would be seemingly infinite numbers of universes in which the salvation history of humanity's revelation of God would be dramatically different.

Multiverse theories such as the Everett model reinforce the arrow of time and are fundamentally time asymmetric. In terms of foreknowledge however, if there is a mechanism for God to remain transcendent of the quantum state from which universes emerge (as discussed above), it seems that he could retain an ultimate *totum simul* transcendence over the whole multiverse. However, as his freedom to act seems doubtful in such a multiverse (provided the universes follow the model of branching after each possibility), such a transcendence seems overly deistic. The issues raised certainly are troubling to a classical theology, although, as with other cosmologies based on quantum theory, potentially not insurmountable. As quantum cosmologies continue to be developed, it is likely that new theological debates shall arise.

Conclusion

Throughout history, the changing scientific understanding of time has affected the way that theologians view God's relationship to that time. As seen, the current leading cosmological theories being used by physicists seem hostile to the idea of time having a beginning and consequently are largely unsupportive of *totum simul.* Davies consequently argues that physics creates great issues for the theologian: 'Clearly, God cannot be omnipotent if he is subject to the physics of time, nor can he be considered the creator of the universe if he did not create time.'[133] Furthermore:

> There is thus a grave and fundamental difficulty in reconciling all the traditional attributes of God. Modern physics, with its discovery of the mutability of time, drives a wedge between God's omnipotence and the existence of his personality. It is difficult to argue that God can have both these qualities.[134]

This is part of the wider debate as to the effect of atemporality upon God's character. Lucas, for instance, suggests that 'To deny that God is temporal is to deny that he is personal in any sense in which we understand personality. To be a person

[133] Davies, *God*, 133.
[134] Davies, *God*, 134.

is to be capable to being conscious, and to be conscious is to be aware of the passage of time.'[135]

Answers have been sought to these concerns. Barth, for example, sees God not as existing in static eternity, but instead 'his eternity is authentic temporality, and therefore the source of time. However, God's temporality is different from human temporality for in God's eternity, present, past and future, are not successive, but simultaneous.' [136] These and other notions which add a certain dynamism to atemporality may help to preserve the essence of *totum simul*,[137] whilst preserving personhood, but can only be supported by physics to a limited degree as they are outside its realm. Despite this, it may be that the higher dimensions of string theory would allow this sort of dynamic atemporality. In this way God might transcend creation's time, perceiving it all simultaneously, yet have some temporal aspects. However, if God exists in higher dimensions, he may retain transcendence of the universe, but would not be ultimately transcendent and would be within a continuum.[138] This may imply that a form of time would be more fundamental than God, unless he himself constitutes such a dimension.[139]

There is the temptation to allow physics to dictate theology, especially in more abstract debate. O' Murchu takes this to a logical extreme:

> Today *cosmology* and not *theology* is the queen of the sciences. The cosmos–understood in the open-ended and wholistic [sic] context explored in the present work–is the ultimate point of reference against which we explore meaning and truth.[140]

Ultimately however, there are clearly certain limitations in attempting to understand God's relationship to time using the tools of physics. Firstly, the view presented by physics has been shown to be a developing one, with several prevailing theories proposed within the past century alone. One of the lessons perhaps to be drawn from

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[135] Lucas, 'Temporality', 235.
[136] Qi, 'Time', 445.
[137] Boethius, for example, held God to have some temporal characteristics, occurring in an eternal present, without being temporal. Leftow, 'Eternal', 21ff.
[138] Brom, *Divine*, 263.
[139] It may similarly be that the heavenly realms are in this sort of alternative space-time continuum or a higher dimension.
[140] O' Murchu, *Quantum*, 206.

this essay is that science's conclusions are, by the very nature of the discipline, reasonably likely to be refined or revised given the acquisition of new data. Furthermore, the view of physicists is far from consistent, with several current competing theories possible with the existing data available. For this reason, Qi argues that we should not apply conclusions from physics to theology as physical theories need to be interpreted and one's perspective alters one's interpretation, with 'no decisive standard by which we can favour one and discard the other.'[141] As physics continues to become increasingly technical and theoretical, subjectivity may prove to increase also. Theologians must therefore be careful not to simply twist scientific data to fit their theology, as Stenger rightfully critiques: 'No doubt the fine art of Christian apologetics will always find ways to reconcile Christian theology with whatever science comes up with, as they did with the teachings of Plato and Aristotle: Pick and Choose what you like ignore what you don't like.'[142] The danger of this may be seen clearly in other areas of theology, for instance in Hunt's criticism of Boyd's and Helm's mutual attempts to use physics to support their contrasting views of God's foreknowledge.[143] However, as may be suggested by the recent debates over the nature of time in relation to the Big Bang, science itself, although theologically neutral in theory, is also not immune to interpreting data to fit with a presupposed worldview.

Furthermore, it may ultimately be that there are areas of physics which simply lie outside of the possibility of human examination. Martin Rees, for instance, suggests that human brains may simply not be advanced enough to grasp a unified theory.[144] Aside from the limitations of combining physics and theology, this pronouncement may suggest that areas of physics will perpetually remain a mystery. Likewise, events in which God relates to time in a unique way, such as the incarnation, are inherently mysterious, placing a limit on enquiry such as this.

Despite this, it has been shown that physics clearly plays an important role in such reasoning; as Davies noted in our introduction, physics provides 'the very conceptual framework in which the religious questions are posed'.[145] He is also emphatic about the disruption that physics causes to such frameworks: 'The new

[141] Qi, 'Time', 442f.
[142] Stenger, *Multiverse*, 343.
[143] Hunt, 'Response', 49.
[144] Leake, 'Universe'.
[145] Davies, *God*, 218.

physics has overturned so many commonsense notions of space, time and matter that no serious religious thinking can ignore it.'[146] It is for this reason that theologians must continue to engage with physics in this debate and allow their theology to be tentatively shaped by it. There is a great lack of theological engagement with the newest developments in contemporary physics, as Peacocke notes.[147] However, as we have seen, there are limitations to the role that physics may play and theologians must be rightfully cautious in its use. Thus, although theology must take seriously the claims of physics, it cannot be subservient to it or constrained by it, as Qi proclaims: 'If we see eternity from a Newtonian perspective, we get a temporal and dynamic picture; if we see it from an Einsteinian perspective, we get a timeless and static view. However, these simplified perspectives cannot exhaust God's eternity.'[148]

Perhaps it is wisest then to affirm the mystery of God's relationship to time, recognising our limitations, whilst still reaching humbly towards an understanding with the tools of physics that he has given us. As Newton writes:

> 'As a blind man has no idea of colours, so we have no idea of the ways in which the most wise God senses and understands all things.'[149]

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[146] Davies, *God*, 229.
[147] Peacocke, *Scientific*, 30.
[148] Qi, 'Time', 446.
[149] Newton, *Principia*, 942. Spelling anglicised.

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A Eulogy for InterHealth Worldwide

Simon Clift

Following his training at Guy's Hospital (q. 1986) and 3 years on a GP Training Scheme (MRCGP 1991) in the East End of London followed by 1 year of cross-cultural mission training at All Nations Christian College, Simon worked in East Africa with his family in primary health care & public health between 1996 and 2002 as a mission partners with Crosslinks under the auspices of the Anglican Church of Tanzania.

On return to the UK he became Clinical Director of InterHealth Worldwide, a specialist travel and occupational healthcare provider to the international humanitarian aid and mission sectors (2002 – 2008) before undergoing specialist training in occupational medicine (MFOM 2011) while employed as Medical Officer for NATS, the main provider of Air Traffic services for the UK. From April 2014 to August 2017 he returned to InterHealth as their Director of Health Services & Registered Manager.

He now pursues a portfolio career combining his expertise in occupational and aviation medicine and is currently establishing a specialist OH service to Clergy, Ministers & other Christian leaders.

Outside of work Simon serves on the General Synod of the Church of England having been elected for a 5-year term as Lay representative for Winchester Diocese in November 2015.

InterHealth, established in 1989 by 3 Christian doctors; Veronica Moss, Marjorie Foyle & Ted Lankester to provide services to missionaries returning from the field, grew into becoming an internationally respected and highly valued healthcare provider of specialist travel & occupational health services to over 550 different international humanitarian aid & mission agencies and UK-based third sector organisations serving upwards of 20,000 individuals each year. On 2nd August 2017, it was forced to close its doors in Newington Causeway, London and a few weeks later it's East Africa office in Lavington, Nairobi ceased trading.

I had the privilege of working with InterHealth Worldwide for the last 15 years, and before that as one its patients along with my young family while mission partners in East Africa with an Anglican mission agency, BCMS Crosslinks (1994-2002).

What follows are my own personal reflections on my close association with InterHealth over that time and some initial thoughts on coming to terms with its recent closure, bringing to an end 28 years of Christian service.

When asked why I found working at InterHealth such a privilege, I often explained to people that in a unique way it enabled me in my professional life to combine my training as Doctor (my **medicine**) with my personal Christian Faith which has shaped my life since childhood (**ministry** and **mission**). Assessing the fitness of personnel ahead of their international assignments, advising them on how to prepare to meet the various health hazards awaiting them and then providing ongoing support remotely when in the field and face-to-face during their periods of home leave has provided numerous opportunities to put my Christian Faith into practice.

Medicine

InterHealth started life as a specialist travel health clinic drawing its expertise from the emerging sub-speciality of Travel Medicine and indeed Dr Ted Lankester, one of its founders would be considered by many as one of the forefathers of Travel Medicine in the UK. Travel Medicine now has its own Faculty within The Royal College of Physicians and Surgeons of Glasgow and reflecting its multidisciplinary approach, welcomes into membership health professionals from several different disciplines.

However, during my early years heading up the team of doctors carrying out large numbers of pre-assignment medical examinations assessing both fitness for travel and the assignment itself, it became clear to me that in fact InterHealth could as easily have seen itself as a specialist occupational health provider with an emphasis on the international worker. Consequently, I acquired an entry qualification in occupational medicine while working at InterHealth (DOccMed 2007) and in 2008 stepped down as its Clinical Director to pursue specialist training to become a Consultant in Occupational Medicine under the auspices of NATS, formerly the National Air Traffic Services (MFOM 2012) returning to InterHealth in 2014.

Through my work at InterHealth seeing at first hand the interaction between work and health; both the potential positive & negative impact of work on a person's health and vice versa, I have developed a passion for practising occupational medicine and so finally 30 years after qualifying as a doctor from Guys Hospital in 1986 I have well and truly found my professional niche.

Ministry

Having previously been in the shoes of InterHealth clients, on the receiving end of InterHealth's care and myself along with my wife, Esther taking our young family out to Tanzania in 1996, I was able to understand some of what they were going through and so could respond to their questions and sometimes allay their fears. I could sympathize with them as they counted the cost of their overseas service; leaving friends & family, UK careers & pension plans or climbing the property ladder. At the same time, I could enter into their excitement, their sense of adventure and, for many, a profound sense of being caught up in the purposes of God.

Mission

As far as the various Christian mission agencies we served, InterHealth played a vital role in facilitating mission in its various forms; whether in proclamation or presence (or a combination of the two). Our remit was to enable their personnel to remain fit & healthy and, as far as was possible, thriving in the field making a significant contribution to the effectiveness and fruitfulness of their missionary endeavour.

However, at InterHealth as Christian healthcare workers we also had the opportunity to be involved in our own mission; most commonly in our actions & attitudes but sometimes more directly in our words. We had the enormous privilege of being God's ambassadors to aid and development workers dedicated to "making the world a better, healthier and fairer place", affirming them in their vital work and their acts of personal sacrifice, as God himself would do, as well as seeking to minister to them as individuals made in His image with their physical, psychological and spiritual needs.

InterHealth was also often there with people in their hour of need, supporting them in their crisis; whether physical illness or psychological trauma, going the extra mile, holding their hand albeit at a distance through a phone call, Skype conversation or email exchange.

As I look back over my 15 years working with InterHealth, I am filled with thankfulness for what I have learnt on both a professional and personal level and for the privilege of playing my part as God's hands & feet ministering to such an inspiring group of people.

Despite the profound sadness & disappointment that I feel over its abrupt recent closure, I am also filled with a sense of satisfaction & fulfilment for what

InterHealth has accomplished over its 28-year history; the lives transformed, crises averted and casualties comforted; something which I believe can never be un-done. This is something which no one can take away from those of us who played our part in making InterHealth the blessing it was.

The end of an era

So finally, why would God allow such a worthwhile organisation seeking to serve God's kingdom purposes to be forced to close back in August? How can we make sense of its abrupt end? Many people, whether individuals who had come to rely on InterHealth's services, mission or humanitarian organisations and of course InterHealth staff in London & Nairobi continue to ask such questions and what follows is in no way the last word on what I suspect will remain open to several different interpretations.

From my standpoint and understanding, these are some of the strands of my current thinking which might also be relevant in other circumstances people might find themselves in, which are difficult to fathom:

1. No organisation, whether founded on Christian principles or not, has a divine right to go from strength to strength (or even to remain in existence)

2. Our current age is marked by death & decay within which as Christians, and Christian organisations, we are called to be signs of hope and new birth (Romans 8:19-25)

3. I would argue that the lasting fruit & enduring value of any endeavour is in the lives of individuals changed & transformed, rather than in the longevity of any institution

4. I remain convinced that one day all those individual signs of hope and transformed lives which InterHealth has been responsible for will one day culminate in God's kingdom being established on earth as it is in heaven (Matthew 6:10 & 1 Corinthians 15:58)

5. In the case of InterHealth, an overwhelming set of factors - both internal & external - conspired against its ongoing viability which meant that in the end despite the best efforts of many different people, the only option was closure.

6. Finally, as I look ahead to a post-InterHealth future I take inspiration from the Christian understanding of death & resurrection including the

words of Jesus, "Truly, truly I say to you, unless a grain of wheat falls into the earth and dies, it remains alone; but if it dies, it bears much fruit." (John 12:24) which points to the possibility of new beginnings arising out of the death of InterHealth.

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