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Among 20th-century Western philosophers, Whitehead is one of the few who dared to put forth an integrated philosophical vision of our universe as a whole, a truly holistic vision of reality.^{†1} Thinkers of our century, especially Anglo-American ones, have not looked kindly on metaphysics in the grand classical style that is characteristic of both Whitehead and Aquinas, which is why I have joined the two of them in this paper. Even if we leave aside the more obvious cases of postmodernism and deconstruction—with their passion for highlighting the Other, the Many, all that stubbornly resists integration under any overarching, all-inclusive One either in the real or the conceptual order—still, the dominant schools of analytic philosophy, continental phenomenology, and American pragmatism (save, perhaps, Peirce) all tend to avoid any large-scale, all-inclusive, integrating visions of reality in favor of careful “piecemeal” work, as some have put it. Thus Sidney Hook, in the introduction to the book he edited, *American Philosophers at Work*, makes the point clearly: “American philosophers, with some notable exceptions, no longer practice philosophy in the grand *tradition*, essaying wholesale views about the nature of man, existence, and eternity. Inspired by the results in the sciences, they do not even practice philosophy in the grand *manner* but concentrate on the patient analysis of specific problems aiming at results which, although piecemeal, are more likely to withstand criticism.”^{†2}

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My response to this, to which I have never received a satisfactory answer, is that it is fine to do “careful piecemeal work,” but if this is all you do, it still leaves your life and thought “in pieces,” somewhat like having a collection of finely carved pieces of a jigsaw puzzle lying jumbled together without yet being joined to form a single coherent picture. And this is not enough to satisfy our deep human longing for the architectonic knowledge traditionally known as *wisdom*, which tries to give expression to some *integrating vision* of the unity and meaningfulness of human life and reality as a whole—unless, of course, one is willing, as Sidney Hook seems quite ready to do, to abdicate this ancient ideal of philosophy and relegate it to the more modest role of one more specialized scientific discipline among others.

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Therefore, to his great credit, Whitehead stands out as one of the few authentic

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wisdom-seekers among 20th-century American or even other Western philosophers. He pursues this goal guided by two general convictions: (1) “Actuality is through and through togetherness”; and (2) God as the ultimate principle of order guides the universe toward the realization of an overall pattern of unity, order, and harmony, by implanting in each new actual entity its guiding subjective aim in harmony with this overall plan.

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What I would like to do here, as a Thomist who has frequently engaged in creative dialogue with process thinkers, is to suggest how St. Thomas can stimulate Whiteheadians to carry out more fully their own project of an integrative vision of what it means to be real in our universe, without what seem to me to be some of the unnecessary restrictions which Whitehead has imposed on the fulfillment of his own project. This process of bringing St. Thomas into dialogue with Whitehead, however, will not only be a challenge to Whitehead but also may well precipitate some “creative completions” of Thomas’s own thought in certain areas. Hence, this

paper is also offered as a contribution to the very challenging and creative project of Prof. James Felt, S.J., of Santa Clara University, outlined in the previous paper: namely, constructing a new synthesis of Thomistic and Whiteheadian thought that tries to unite the strengths of each while remedying the weaknesses of each. I am perhaps less optimistic than he about how much of Whiteheadian thought can be integrated coherently and harmoniously with that of St. Thomas, but I find the very attempt to see how far one can go very stimulating and illuminating.

I. CREATIVITY AND GOD

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The first point (on which Felt and I agree), as a necessary completion of Whiteheadian metaphysics, is the *unresolved dualism* between the two great ultimate explanatory principles: creativity and God. For Whitehead, although God is the ultimate source of order, harmony, and teleology in the universe, he is not the source of the very actuality and creative activity of actual entities. God is indeed the supreme *instance* of the existential dynamism of creativity, by which each actual entity is self-creative; but he is not the ultimate *source* of the energy of creativity itself, in which all created beings “participate,” as Thomists would say, according to the capacity of their particular natures or essences. Creativity just springs up, independently, it seems, in each new actual entity, with no explanation of its source or its universal unifying role as ultimate constitutive principle of all actual entities throughout the universe. For creativity itself does not refer to some actual entity that is the concentrated ultimate source of this universally shared property of all beings; this would make it a rival of God himself. It is merely an abstract universal summing up the universal fact that all actual entities do manifest some degree of it. To claim that it just emerges completely out of nothing as an ultimate matter of fact is not an explanation at all but just a restatement of the phenomenological state of affairs that in fact it is always present wherever there is an actual entity.

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So, we are left with the radical unresolved duality of two ultimate explanatory principles of reality, the cooperation of which is indispensable for the actual operative presence of every actual entity, but neither of which is the source of the other nor the reason why the other is present or is ordered to cooperate with it in

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harmony to produce a unified world order. This is radically unsatisfactory for a metaphysician in search of ultimate explanations, which necessarily implies some ultimate unification: “To understand is to unify,” as Leibniz sums it up—this is the guiding principle behind all the great metaphysical systems of both East and West (with only a few exceptions), of which Whitehead’s may in fact be the most distinguished. And all search for ultimate foundations must always lead ultimately to some self-sufficient being. This is not the case with creativity in Whitehead’s system, which is not a self-sufficient actual entity on its own but an ultimate brute fact left dangling on its own without roots or grounding.

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Why did Whitehead leave this unresolved duality in his system and seem so strangely unconcerned about it? I agree with Felt in his insightful suggestion that one reason—there may be other systematic ones too which would also bar the way to any further attempts at unification—is that Whitehead started out with the intention of constructing a “cosmology,” not a total metaphysical system. A cosmology explains how the *given system* of the universe actually works and what are its main constitutive principles, but it does not probe further into the more radical metaphysical question of origins: How come *there is* such a system in operation at all? This “vertical question,” as Felt puts it, had not yet become a central preoccupation with Whitehead and perhaps never fully did. For Whitehead, in fact, God needed the world in order to be God, just as much as the world needed God in order to be a world.

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How can this *lacuna* be overcome? I agree thoroughly with Felt that the only intelligible way—which a number of other Whiteheadians now seem ready to accept—is to make God not

just the supreme *instance* of creativity but its ultimate *source*, a source which possesses it in infinite concentrated intensity and shares it generously with all his creatures. This opens the door to integrate the Christian notion of creation into Whitehead's system, making it a far more apt instrument for constructing the Christian process theology to which so many are drawn today. Whitehead's own objections to the notion of creation—accepting creation, he claimed, was the central mistake of Christian, Jewish, and Islamic thought, namely, that, if God is the author of the whole show, then he is directly responsible for all the evil in it—is based on a fundamental misunderstanding of what it means for God to be *all-powerful*. It means that God is the source of all power and that his own power of producing new beings and new effects within beings extends just as wide as the whole range of intelligible possibility; it also means that he freely grants a participation in this power to all creatures according to the capacity of their natures. It does not mean that he restricts all the use of this power to himself alone or directly controls all the use of it by creatures; rather, he freely self-limits the use of his own power to make place for the freedom of his creatures, especially his human and other spiritually endowed creatures. Thus he is not responsible for the evil which they decide to do by going against the innate ordering of their natures toward their own good and that of the universe, as Langdon Gilkey and others have pointed out.

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I was delighted to discover that Thomas Hosinski, in his widely esteemed study of Whitehead's metaphysics, *Stubborn Fact and Creative Advance: An Introduction to the Metaphysics of Alfred North Whitehead*,⁺³ also recommends just such a

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creative revision of Whitehead to ground creativity in God. Langdon Gilkey does the same in his *Reaping the Whirlwind: A Christian Interpretation of History*,⁺⁴ and he adds the powerful metaphysical argument for so doing drawn from the very "ontological principle" of Whitehead himself: since creativity is not of itself an actual entity, it cannot ground itself (serve as its own "reason") but needs some actual ground to do this for it, and this can only be God. In this way a serious and unnecessary *lacuna* in the intelligible unity of Whitehead's universe is overcome, and the result, it seems to me and others, can only strengthen significantly the whole system.⁺⁵

II. THE UNITY OF HUMAN BEINGS AND OTHER ORGANISMS

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The adequacy of the traditional Whiteheadian metaphysics to render intelligible the undeniably experienced unity of these primary entities of our experience is another of the weaker spots of process thought—a point admitted in some way by many Whiteheadians themselves. The central difficulty is how to explain the experienced unity of the life of a human person as a center of multiple action perduring over time, expressed in the direct intuitive experience of the "I" as the present subject and "owner" of past memories and responsible for its actions in the past, the present, and reaching into the future. The notion of a *society* of discrete, non-identical selves linked in a temporal and spatial chain is not nearly strong enough to do justice to these powerful experiences of perduring unity and self-identity. It is one thing to take responsibility for dealing with the results of the action of one's predecessor; it is quite another to take personal moral responsibility for having *done* the act oneself. Only the acceptance of the latter can do full justice to the uniqueness, challenge, and dignity of the moral experience as we stand before both God and other human persons.

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Our experience—both in ordinary life and now more and more in scientific analysis as well—of subhuman living organisms (animals, plants, cells, etc.) also reveals a strong unity at work organizing and controlling a multiplicity of subordinate elements, where the force of unity dominates the multiplicity and actually exercises downward causality on the parts. Such a double flow of causal influence in biological organisms is now widely admitted by scientists themselves: an influence from the parts upwards on the whole and from the whole downwards on the parts. This is well brought out in an illuminating article cited by Felt in the previous paper, that of Terence Nichols, "Aquinas's Concept of Substantial Form and Modern Science."⁺⁶

The unity of a society, founded on external relations, not on the inner unity of the being itself, is again not strong enough to do justice to the evidenced facts.

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As a matter of fact, I have been quite impressed by the point made by several sympathetic critics of Whitehead that they see no compelling metaphysical reason why Whitehead has to limit, as he does, the viable candidates for actual entities in our world so narrowly to an atomism of micro-entities far below the level of any human actual experience, either in the order of space (comparative size) or of time (duration of existence) or of both. Rem Edwards makes the point that to be such a micro-entity cannot be of the essence of every actual entity as such since God is certainly an actual entity—a single one perduring through all time as a single continuous concrescence and not a society of successive ones. God can indeed be called different in kind from the micro-entities of the quantum world like the electron, but he still falls within the analogous spectrum of actual entity. Why, then, cannot the human person or self also be an actual entity different in kind from those of the micro-world, though lower in perfection than God on the same analogous spectrum of actual entity? Thus it seems that it cannot be precisely because they are actual entities that the beings of our world must all be restricted to the micro-or quantum world.

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Why, then, does Whitehead insist on this? It seems to be for two main reasons: (1) the desire to integrate more closely the metaphysical with the contemporary scientific world picture, where the micro-world is considered to be the foundation of the macro-world; and (2) even more fundamental perhaps, the determination to banish any notion of a unitary subject perduring through time (the traditional "substance") which transcends, and so is distinct from, its present single act of concrescing experience. Once such a subject is allowed a place within the metaphysical horizon, the need to restrict actual entities to the micro-world disappears, as we shall see.†7

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So, again, the fundamental challenge to the Whiteheadian system is that of the *One* and the *Many*, this time how to integrate them both, doing justice to both, within the constitution of individual complex real beings such as living organisms like animals, plants, cells, and especially human beings, which belong to the macroscopic order and which are, after all, the only beings we directly encounter in our own lived experience. It seems to be a sounder metaphysical procedure to render intelligible the entities that we directly encounter in our experience and then to extend the structures discovered there by analogy, inference, and creative hypothesis to levels of reality beyond our direct experience (both in transcendent levels above us and in the micro-levels far below our senses), rather than to proceed, as Whitehead does, in the opposite direction: from the non-experienced, theoretically inferred level below to the directly experienced above.

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What is the basic challenge to metaphysical intelligibility presented by these beings which we directly encounter in our experience of the macroscopic world?

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(How to extend the principles of metaphysical intelligibility discovered here to the lower levels of inanimate entities, especially to the mysterious and paradoxical lowest level of the quantum world, is a further problem which we do not have the space to go into here.) These beings present themselves as a *complexity* unified by a dominant *unifying force* or power (or active center), which organizes, controls, and directs a multiplicity of subordinate components beneath it, so that the whole presents itself as an intrinsic unity of being and action that can only be adequately described as one complex being, quite distinct in its mode of operation from other complexes united only by external relations, such as societies, aggregates of various kinds, and so on. (One of the best definitions of a machine, for example, is that of the metaphysician Paul Weiss: "A machine is a complex whose parts are external to each other.") In a word, the force of unity dominates and subordinates the multiplicity of components without eliminating them.

Thus no human society (whether a congress, a corporation, a school, or a family), no matter how tightly knit, ever expresses the subject of its activity save in terms of "we": "We, the Congress, etc., decide or decree that..."; never "I, the Congress, or I, this family, or I, this school, etc., decide that...." And for good reasons; otherwise the metaphysical explanation ends up by destroying or distorting the very experience that it is trying to illuminate and render more intelligible. All of the above unities are indeed social units, societies; but none of them do we recognize as persons.

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What is needed to do metaphysical justice to the self-presentation of these beings through their characteristic modes of action? It seems to me, following St. Thomas, that three things are needed, in addition to the multiplicity of subordinate elements.

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1) *An intrinsically unified nature*, aptly defined by Aristotle and Aquinas as an abiding center of activity (*i.e.*, of acting and being acted on). It fills a *double role of unification*: (i) it holds together all of the attributes and activities of the being which are present and going on at any one point of time; and (ii) it acts as an abiding or perduring center which grounds the active continuity of this being through time and a succession of changes, enabling it both to hold on to, integrate, and learn from its past and to project itself into the future through growth, planning, and carrying out operations which need time to unfold. This double role of unification, in the present and over time, is precisely what is intended by the original classical notion of *substance*, as understood dynamically by both Aristotle and St. Thomas (though not always highlighted sufficiently under this aspect by them) and disastrously obscured, distorted, or forgotten later in modern philosophy. Such an abiding center of unity and unified activity is oriented entirely toward self-expression and self-fulfillment through characteristic modes of action. As St. Thomas tersely puts it: "Every substance exists for the sake of its operation" (*Summa theologiae* I.105.5); "Each and every thing shows forth that it exists for the sake of its operation; indeed, operation is the ultimate perfection of each thing" (*Summa contra Gentes* III.113). It would be hard to conceive a more dynamic notion of substance than this, one furthest from the static, inert one of Locke which prevailed later.

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Furthermore, this substance, as abiding center and source of activity, is actively involved, immanent in each of its multiple and successive acts; yet, at the same time, it transcends them all—it is never simply identified with any one of them since these come and go, and no one of them exhausts

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definitively all the latent active potency of the subject of action, the abiding nature, or substance in the classical sense.

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2) *A principle of unity* within the nature: a unifying and integrating power to organize, control, and impose the central unity on its changing component parts (atoms, molecules, cells). It is that which renders the nature an intrinsically unified unity-identity-whole. This is well expressed by the term *substantial* or *essential form* in Thomistic metaphysics, as long as it is understood dynamically, as an organizing force, not merely as a static pattern, like a mathematical model in science.

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3) *The notion of potentiality*, both passive (or receptive) and active, as a necessary ingredient of reality, especially for solving the problem of the unity of complex material beings. As the ex-Whiteheadian metaphysician Ivor Leclerc has shown so cogently in his article dealing precisely with this point, "The Problem of the Physical Existent,"^{†8} it is impossible to solve the problem of how the multiple components of a complex being come together to form an intrinsic unity, unless the subordinate elements have the potentiality at the substantial level to be taken over by a higher unifying form and to lose their full autonomy of being and action. If they remain in full actuality within the compound, the most that can result is an aggregate of many distinct beings held together in an extrinsic unity based on external relations—which is precisely what happens in Whiteheadian societies. As St. Thomas sums it up: "From two beings in act it

is impossible to make an *unum per se* [an intrinsic unity]; one must be present as act, the other as potency" (SCG I.18, II.53).

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The dilemma is rigorous and faces all metaphysicians who attempt to cope with the problem of the intrinsic unity of complex entities in our world. (For example, Leibniz, one of the inspirers of Whitehead, is caught in the same bind and is forced to posit an extra entity, his *vinculum substantiale*, or "substantial bond," in order to cope with the difficulty—an unsatisfactory *ad hoc* solution that raises more problems than it solves.) Whitehead does not seem to see the urgency of the dilemma and to consider explicitly the Thomistic alternative of potency as an ingredient of reality; or perhaps he did and prefers to remain with the weaker unity of society. It has always been puzzling to me how minor a role the principle of potency, either passive or active, plays in his system; nor is it clear to me just why this has to be, except that it might be a serious threat to his fundamental preference for an atomistic interpretation of reality and to his aversion to any perduring subject that can perform several different acts and so is not identical with any.

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Just why is it that Whitehead refused to follow the Aristotelian-Thomistic path of positing the unifying principles of substantial form to organize the subordinate elements in a complex being, and of dynamic substance as abiding center of activity of an actual entity across time and change? It seems to me that the main reason was his fear of falling back into what he had uncompromisingly rejected from the beginning, the "classical" notion of substance, which he understood as a static, inert, unrelated substratum, perduring absolutely unchanged through all of the phases of the dynamic processes of becoming and change that are characteristic

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of any authentic actual entity in our world. Any perdurance through time as an identical actual entity—aside from God—seemed to him inseparable from this unacceptable notion of a static, unchanging substratum. *Self-identity* and *immutability* had gotten linked inseparably in his mind because of what he was familiar with in the history of modern philosophy since Descartes.

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But recent scholarship, it seems to me, has now made it abundantly clear that, while Whitehead was indeed correct in rejecting such a notion of a static, unrelated, unchanging substratum underlying any change where the subject of change was supposed to remain self-identical, this notion was not at all the original authentically classical notion of substance in Aristotle or St. Thomas (as well as most of the medieval metaphysicians) but one of the three great distortions of substance that have dominated most modern philosophical thinking on the subject since Descartes. As I have explained more at length in my article "To Be Is to Be Substance-in-Relation,"⁺⁹ these three distortions were: (i) the Cartesian unrelated substance; (ii) the Lockean substance as static, inert, unknowable substratum; and (iii) the Humean substance as immutable and separable from all its accidents (if such a thing could exist, which it cannot).

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Whitehead is perfectly clear about where he is coming from when he explains why he rejects substance as a constituent of actual entities: he starts off with Descartes's definition of substance as "that which needs nothing but itself to exist (plus God, if it is a creature)" and then proceeds to reject precisely this notion, which he takes as a paradigm, on the grounds that it conflicts with his fundamental principle that "Actuality is through and through togetherness." James Felt has already shown in his fine article "Whitehead's Misconception of 'Substance' in Aristotle"⁺¹⁰ how Whitehead misunderstood the classical notion in Aristotle; the same is even more true with regard to St. Thomas. Actually, it turns out that the proper technical expression for the relation of classical substance to its changing accidents is this: in an accidental (or non-essential) change, the substance itself *changes*—not *substantially* (or essentially) but only *accidentally*. In a word, *self-identity* and *immutability* are not at all identical or interchangeable concepts. The self-identity of a real being is not a static, immutable "thing" but more like an abiding force that actively assimilates and integrates all of the less-than-substantial changes which it undergoes: a unity-identity-whole that maintains itself within certain flexible limits;

when these are breached, the identity collapses.

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I am thus in profound agreement with Felt's suggested reconstruction of the inner structure of actual entities (or real beings, as Thomas would prefer to call them) in terms (i) of the Thomistic notion of *dynamic substance* as abiding center and subject of action in a being that undergoes change, and (ii) of a refined version of Aquinas's *substantial form* as the intrinsic principle of unity organizing the multiplicity within the substance itself. These are missing in Whitehead's own account of the unity of the human person and of any living organism; and the relational unity of a society of discrete ontological units is not strong enough to substitute for them. To these notions of substance and substantial form, I think that one must add (iii) that of *receptive potentiality* at the substantial level within

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the subordinate components of an intrinsically unified complex being, in order to explain how such a complex can be at once truly *many*, composed of many elements, yet intrinsically *one*, under the unifying, organizing power of one higher substantial or essential form—this form alone is present in full actuality as autonomous center of being and action, and it can take over, without destroying, these lower unities, or "holons," with their innate potentiality to be thus integrated into something higher.

III. INCORPORATING WHITEHEADIAN INSIGHTS INTO AN UPDATED THOMISTIC SYNTHESIS

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In what has gone before, I have essayed a Thomistic reconstruction of the inner structure of the complex but intrinsically unified beings which we directly encounter in our macroscopic world of experience (such as human persons and other living organisms) in order to overcome the *lacunae* in the traditional presentations of the Whiteheadian metaphysical system. But just as James Felt in his paper sensed the need to incorporate a number of Whiteheadian insights and principles into his new synthesis, so it seems to me too that certain basic Whiteheadian insights can be of significant help as a corrective and enrichment for traditional presentations of the Thomistic synthesis both by Aquinas and his successors. It will be seen that, while I agree with Felt on some points, I disagree with him on others. Here below are the ones which I think need to be integrated.

1. Becoming as Part of the Very Being of the Real Beings of Our World

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I think that one of Whitehead's most significant contributions was that he helped us to see in a new way how profoundly *process* and *becoming* are woven into the very texture of being itself in our world, rather than being somehow alien to or outside the realm of true being, as though being and becoming were contraries excluding each other—as so often seemed to be the case with thinkers in the ancient world. If we look carefully at the picture of biological organisms that science now presents us, it appears that precisely what to *be* means for them --namely, to be *actually present* in our world—is to maintain a constant rhythmic cycle of *active and receptive interchange* with the outside world, taking in materials from it and releasing others back into it, in a constant process of ongoing change. If this movement slowed down or came to a stop, this would mean that the organism was dying or dead, was losing or had lost its real being. Its very being is to be in process. However, its being is not simply this ongoing process. The process itself is integrated, organized, and guided by an abiding *inner principle of unity*, which is precisely the substantial or essential form that we have described above, whose role is to maintain the very existence and self-identity of the being in process and to unfold its potentialities to the fullest degree possible within the limitations of the environment. In other words, the very unity of the being is not a static given thing but a constant *active achievement* by a self-identical force or center of energy at work, achieving a perduring self-identical unity across time precisely by guiding the very process itself: *being* through guided *becoming*, somewhat like a helmsman actively steering a ship on a constant

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course toward the same goal through the constant twists and turns of a stormy sea. We must shake off misleading static images to recognize that this is precisely what the unity and self-identity of real beings in our world actually mean. This is an authentic mode of both unity and self-identity, but a self-identity that must not be identified with immutability, as has so often happened in the history of modern philosophy. Thus it is not being *or* becoming, being *against* becoming, but being *in* and *through* becoming, through process.

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I see no good reason whatsoever why St. Thomas himself would not welcome this more dynamic and more scientifically supported interpretation of the unity of real beings as we find them in our material world. Perhaps something similar also holds true for the inner flow of our psychic lives. We are like self-identical surfers always or most of the time riding the waves. To do this successfully is to be a real human being (or animal, or plant, or cell) in this phase of our human lives. To fail to do so is to lose our this-worldly being.

2. The Status in Being of the Subordinate Elements in a Complex Real Being

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Earlier I defended the Thomistic notion of substantial form as the unifying, controlling principle of the multiplicity within a complex macroscopic being such as a human being or a living organism, enabling it to be both a complex of parts and yet intrinsically one. I agree substantially with Aquinas in his controversy with most of the other 13th-century masters, where he insisted on the need for a single substantial form in any one being, against the more commonly held plurality of substantial forms defended especially by St. Bonaventure and the Franciscan School. The intrinsic unity of every real being seemed of primary importance to Aquinas: unity was a transcendental property of being upon which all other properties depended. Before all else, to *be* is to be *one*. But the other side of the picture, forced on us by the facts, made considerably more compelling by the findings of contemporary science, is that it is not enough merely to declare that this one substantial form directly informs the primary matter of the complex being. One must also give an account of the obvious multiplicity of elements which are being integrated by the central form and which continue to retain a certain integrity of presence and action within the whole, though much diminished and under the control of the central form.

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St. Thomas himself comes to grips quite explicitly with the problem since thinkers of his own day were already quite aware of the difference between complexes that are only mixtures (aggregates) and others that are compounds possessed of intrinsic unity. Thomas concedes that these subordinate elements are not simply wiped out when taken over by the unifying substantial form; they retain a certain "virtual presence" of being and action that is less than actual yet more, it seems, than the pure potentiality characteristic of primary matter by itself. But this secondary or subordinate mode of being remains very vague and undeveloped in Thomas's own writings.^{†11} It needs to be spelled out with much greater precision today in order to cope with the data of contemporary science about the

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complexes of cells, molecules, and atoms which still reveal some significant presence and distinctive activity within the whole and which often re-appear quite recognizably again after the higher unity has broken down. We must move a little closer to Whitehead here.

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I see two main problems here. First, a more precise analysis and formulation of the mode of presence and action of the subordinate elements in a compound unity needs to be worked out. Terence Nichols has made a fine start in his insightful article mentioned earlier, "Aquinas's Substantial Form and Modern Science," where he outlines a theory of subordinate or subsidiary unities (aptly called "holons") within the overall dominant unity. These have lost their full autonomy of being and action, so that they do not have full-fledged autonomous substantial forms operating within them, but they still retain a certain recognizable unity of structure and action under the command and control of the central form—unity under orders, so to speak. The

structure and operation of the macroscopic entities of our experience are extremely complex and flexible and so need a very refined and flexible theory to do justice to them. The ontological unity of living beings is not just a static state, either given univocally or not, but an active achievement, an ongoing act of cohering achieved by the energy and power of the central form. And there seems to be a spectrum of degrees of control of the form over its parts: certain basic ones are firmly under the control of the form; others, for various reasons, show a little more resistance to orders from above, which can increase as the organism ages, so that the central form no longer has sufficient energy to hold the whole together in the face of splintering tendencies from within and invasions from without. Thus the internal unity finally collapses and the organism dies, *i.e.*, *dis*-integrates as a distinct autonomous being. The unity of real material beings turns out to be complex, changing in intensity—in a word, messy—and needs a flexible theory of degrees of unity to do justice to it.

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The second main problem, which draws us even closer to the Whiteheadian notion of *societies* of actual entities (societies giving rise to unities of order), is that the living organisms of our world, at least the higher ones and especially humans, reveal themselves on closer microscopic analysis to carry along with them *whole colonies* of distinct smaller organisms, bacteria, *etc.*, which are clearly not organic parts of the central organism but fellow travelers receiving shelter and nourishment from the central organism and performing useful functions for the latter in return. Nature is filled with fascinating and ingenious arrangements like this, as we are discovering more and more today. The full reality of these living organisms, then, is a complex synthesis (relatively stable in some respects) of a central ontologically unified organism, itself a one-in-many, enveloped in a larger, more loosely organized society of smaller accompanying entities which are themselves organized into smaller societies—in a word, a society of societies, with a central core of at least one intrinsic ontological unity that constitutes a being in itself in the unqualified sense. Analogy runs through all of the main terms used here. Whitehead can be quite a help here, as long as his societies do not try to substitute for the intrinsic unity of actual entities on the complex level of the macroscopic world, the only ones that we directly encounter in our own conscious experience, and the only ones where we can meet our fellow humans in genuine interpersonal relations, as “I” and “Thou,” not just as “We” to “We.”

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3. “Actuality as through and through Togetherness”

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This, it seems to me, is one of the most fertile of all the Whiteheadian insights into what it means to be in our world. It is the notion of the *interrelatedness* of everything real in our universe, such that each reality in some way affects all of the others. According to Whitehead, as each new actual entity comes into being, the whole previous state of the universe impinges upon it in some way, however slight. “Wave a finger and move a star,” as the saying goes (and *vice versa*). This is borne out more and more by all that contemporary science reveals to us: from the great fields of force (gravitational and electromagnetic) that envelop us all and put us in contact with all other bodies, to the tightly woven webs of ecological systems, and to what we can all directly observe in the closely interwoven links (physical, psychic, spiritual) between humans, imbedded as we all necessarily are in overlapping human social systems. Any adequate metaphysical portrait of the universe must now take this into account, and to his credit Whitehead is one of the few philosophers to build this with full explicitness into his system.

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An alert contemporary Thomism must also build this relatedness into its system as part of the basic data of how actual being reveals itself, and it should acknowledge its debt to Whitehead for directing the attention of philosophers so explicitly to this point. Actually, it fits in beautifully with the whole dynamic concept of being now being highlighted by contemporary Thomists, inspired by such powerful texts of St. Thomas as: “Active power follows upon being in act, for anything acts in consequence of being in act” (SCG II.7); “It is the nature of every actuality to communicate itself insofar as is possible” (*De potentia* 2.1); “Each and every thing

abounds in the power of acting just insofar as it exists in act" (*ibid.* 1.2); and "Communication follows upon the very intelligibility [ratio] of actuality" (SCG III.64). But if each real being, once it is actually present in the community of existents, begins to pour over into communication with other existents by acting upon them and receiving their action in return, it follows necessarily that it enters into a web of relations with all of these beings. Thus all real beings become part of an interacting whole to which we aptly give the name "universe" (*universum* = turned toward unity).⁺¹²

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Thomas does not make explicit all of the implications of this basic metaphysical vision (for example, that it joins every being in our cosmos to every other), as does Whitehead; but his system is wide open for doing so. The Thomistic vision of the universe, if all of the implications of the data now available to us are drawn out, thus turns out to resonate in deep harmony with the Whiteheadian on this point. Let me call attention here to the remarkable similarity in vision between the texts of Aquinas cited above and those of Whitehead on every existent as active, for example: "All agency is confined to actuality.... The very meaning of existence is 'to be a factor in agency'"; "[each actual entity] arises as an effect facing its past and ends as a cause facing its future"; and "[actual entities succeed each other as] the immanence of the past energizing in the present."⁺¹³

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IV. THE ROLE OF EFFICIENT CAUSALITY IN THE TWO SYSTEMS

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There is another powerful resource in the Thomistic system which seems strangely missing or underplayed in Whitehead, namely, the domain of efficient causality as actively exercised by each actual entity in reaching beyond itself to affect others positively. In Whitehead's later thought, at least in the last part of *Process and Reality* (as interpreted by the earlier "classical" commentators and taken as his definitive position), he seems to restrict the exercise of active causality merely to the internal role of constructing the actual entity's own being, its process of concrescence. Beyond that, when it objectifies itself and perishes, it merely presents itself *passively* as data for the succeeding actual entity, which *actively* prehends as much as it chooses from what has been presented to it by its predecessors. At this point the traditional roles of cause and effect are strangely reversed. It is the "cause" which presents itself passively to its "effect," which actively takes hold of its now passive cause, its active response proceeding from its own self-generated creativity rather than from its cause.

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But this is metaphysically very unsatisfying. Whitehead speaks descriptively of "it" prehending its data, but how come there is a new "it" there at all to do the prehending? It is not produced by the preceding actual entity, its so-called "cause," but somehow just bubbles up out of nowhere by its own self-generated creativity. This may be enough for a purely descriptive cosmology but not for an *explanatory metaphysics* seeking the sufficient reason for the existence of our world as it is and operates. A number of recent process thinkers have seen this clearly.

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A dramatic and most welcome change—from the point of view of metaphysical intelligibility, it seems to me—occurred when Jorge Nobo in his well-known article "Transition in Whitehead: A Creative Process Distinct from Concrescence"⁺¹⁴ restored Whitehead's earlier notion (which Nobo insisted he had never really given up) of a transitional causal energy in the completed actual entity by which it reaches beyond itself to constitute the initial phase of the succeeding actual entity. This seemed to me and to many others to be a great step forward in strengthening the metaphysical credibility of the Whiteheadian system. (Some have told me that this is now common in "West Coast" process thinking, though still received cautiously in the "more scholastic East Coast" variety. I cannot judge the accuracy of this myself.) The same point has been even further developed in an impressive article by Elizabeth Kraus, "Existence as Transaction: A Whiteheadian Study of Causality," cited above. Her position is clear with respect to the final stage of an actual entity's development, its status as superject and "perishing":

The perishing of immediacy is precisely the entity's "assumption of a new metaphysical function in the creative advance of the universe" (AI 204).... its self-initiated shift to a new mode of activity.... It marks the subject's entrance into objective immortality as a functioning agent.... ... It will be the thesis of the ensuing pages that the superject cannot be interpreted as dead, as static, as inert.... "superject" is both a noun and an active verb....

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... Whitehead is insistent that subject and superject cannot be torn apart save in high-order abstraction.... The interfusion of both gives the actual entity its self-functioning (formal reality) and its causal functioning in the future (objective reality).⁺¹⁵

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She uses Whitehead's own texts, such as "the irresistible causal efficacy of nature presses itself upon us (PR 176)" and, about the cause as working immanently in the effect, "the immanence of the past as *energizing* in the present (AI 188, emphasis added)," concluding with: "On the basis of his own examples, that Whitehead holds to the classic conception of efficient causality is patently obvious."⁺¹⁶ This may not be so obvious from some of the later texts from *Process and Reality*, but she makes a good case that there is solid grounding for attributing to Whitehead himself, at least at some time in his career, a doctrine of active efficient causality as the necessary consequence of his thought. And this seems to me to be a far more metaphysically coherent position than the restriction of active causality just to the internal development of an actual entity.

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All of this is a most welcome development within process thought. But even this improvement does not do justice to the full strength of the efficient causality of creatures as seen by St. Thomas. For, although the Whiteheadian causality of the actual entity as it perishes does actively posit the initial phase of the new entity, it does not seem to confer on it its energy of creativity or its initial subjective aim (what St. Thomas would call its immanent final cause) which makes it a dynamic nature. For Thomas, just as each creature is a limited participation in God's own act of existence (*esse*), so this same participation is also a limited sharing in the divine power of active, self-expressive *causal energy*, which is inseparable from every real being insofar as it actually exists. Every creature, then, is a genuine causal agent, analogously like God in this, though limited by the active potentiality of its nature. If so, it can then *bring into being* other real beings, not out of nothing like God but working on the existing realities accessible to it. But to bring a new being into existence without any active energy within it does not make sense; it is not to produce a real being at all. It would seem to Aquinas that, when a Whiteheadian actual entity actively reaches beyond itself to bring into being the initial phase of the entity succeeding it, it would also endow it with the appropriate active energy that is inseparable from being real; nothing real can be inactive. Hence, it could endow the new actual entity with its share of creative energy, or creativity, which the latter could then exercise in this or that way by its own inner spontaneity or "freedom," with which its cause has endowed it as part of its very actuality.

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The same, I think, would hold true (as Thomas sees it) with respect to the "initial subjective aim" of the new entity.⁺¹⁷ The notion of an active nature does not

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make sense without some built-in determinate goal guiding it toward its characteristic actions. Hence, God would not have to infuse this initial aim directly by his own independent causal action into each new actual entity; this could be mediated through the active causal power of creatures themselves. Thus I suggest that, once Whitehead has launched on the path of active causality of one actual entity towards another, it would be more coherent to go all the way into a full-blown, robust theory of efficient causality as the birthright of every actual entity—derived ultimately, of course, from God by participation but, now that the being actually exists, its own to use and share with others by its own initiative. I shall take up more explicitly in the next

section Whitehead's doctrine of God as the direct source of the initial aim of every actual entity.

V. THE PROBLEM OF NOVELTY AND EVOLUTION IN NATURE: GOD AS SOURCE OF THE INITIAL AIM OF EVERY ENTITY

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In his effort to construct a creative new synthesis between St. Thomas and Whitehead, Felt has singled out the areas of novelty, creativity, and ongoing evolution as the principal weak spots where Thomistic metaphysics shows itself to be lacking in resources to do justice to the dramatic new picture of nature as unfolded for us by post-Darwinian science: a nature full of novelty, the progressive evolution of species one into another, and the whole of our natural world in process as a single great developing story from the Big Bang to the present. Aristotelian-Thomistic cosmology and metaphysics, with their fixed substantial forms, can explain the cyclic continuation of the same species and the invariant structure and activities of a fixed universe, but it cannot explain the constant change, creativity, and development of new forms in an evolutionary cosmos such as ours.

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Here one of Whitehead's most creative and original metaphysical doctrines, that of *God as the direct source of the initial subjective aim of each new actual entity* (akin to Aquinas's final cause), seems to Felt ideally suited to overcome this *lacuna* in the Thomistic system and to meet more adequately this challenge of the new science. For God then becomes the source for the systematic introduction of novelty into the world process and for the coordination of all the varied activities of creatures under a single great plan for a harmoniously evolving world order, unfolding as a single meaningful story and charged with the maximum possible value.

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There is no doubt that this is a grand metaphysical vision. And Whitehead is certainly on the right track in recognizing that the profound unity and order of the universe must be traced back to a single intelligent Source and that this can only be God as wise Master Planner. Furthermore, I am willing to admit that the way which Whitehead suggests—by the direct intervention of God in instilling the initial aim of each new actual entity—might indeed be the way in which the Master Plan of the universe is in fact executed. I pay willing tribute to the depth and richness of the metaphysical vision and religious sensitivity behind it.

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It seems to me, however, that this is *not the only way* to achieve the same overall result of unity, harmonious order, and novelty in the development of the universe. Let me indicate some difficulties with it and suggest another way in which God could achieve a similar result—a way that takes more fully into account the wonderfully rich resources already built into a creative universe of dynamic natures equipped with a range of active potentialities or capacities for interaction with other dynamic

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natures, according as the state of the cosmos permits. The main difficulty with the Whiteheadian position is not that God is asked to do *too little* but that he is asked to do *too much*, too directly on his own, and so not mediated through the innate causal power and active potentiality already infused into his creatures by participation according to their natures. Moreover, too little place is left for the play of *real chance* in the universe and for what appears to be the slow, groping, trial and error process of evolution evidenced by history.

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Let us look first at the main reason that Whitehead himself gives, which is repeated in the standard expositions of his system^{†18} and which is accepted without question by Felt: *any introduction of new possibilities into the world must be grounded* (according to his basic "ontological principle") *in some actual entity*. But the only actual entity that can present not yet existent possibilities to an ongoing world is one that already envisages the full range of possibilities in its mind—and that is God alone, who alone holds the whole range of possibilities actually in his eternal mind. Previous actual entities cannot do this because their own range of possibilities is too small and they cannot envisage how to fit any novelty into the overall harmony of a wise world order. Thomistic substantial forms cannot do it because they are

restricted by their destiny merely to repeating over and over the specific activities rooted in their fixed natures. Without God there would be either no significant novelty in the world or haphazard novelty ending in chaotic disorder.

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This appeal to God as the only possible source of novelty in the world, a source not adequately provided by the Thomistic metaphysics of fixed substantial forms, seems to me to be seriously flawed. It may well be necessary in a strict Whiteheadian metaphysics, lacking the resource of natures with a *range of active potentiality*, but not at all in a properly understood Thomistic metaphysics applied to the new contingent scientific data now available to us.

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The first flaw in this Whiteheadian critique is that it conflates two quite distinct doctrines in the worldviews of Aristotle and St. Thomas, as though they were inseparably connected. The first is *the basic metaphysics of dynamic natures governed by active substantial forms, each endowed with its own built-in range of active potentialities* both for its own inner development and for interacting with other beings outside of it to form new compounds with new, more complex natures.

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The second doctrine is *the scientific theory current in their time*—and in fact held by all (Thomists and non-Thomists, theists, atheists, etc.) until the time of Darwin—namely, the purely contingent fact of how God created our present material cosmos. They believed that it *was created all of a piece in a short space of time*, with all of the species, relations between them, the movement of the stars, etc., created directly in their completeness and *all fixed timelessly*. Human beings had a history, not the material cosmos.

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But this is a *purely contingent factual matter*. There is no metaphysical necessity to it at all, nor any necessary connection with the previous properly metaphysical doctrine of dynamic natures and substantial forms. Indeed, St. Thomas

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believed that this non-developmental, non-evolutionary view of the origin of our material cosmos was a fact, based on what was then accepted as a strictly historical account in the book of *Genesis*. But it is not difficult to distinguish and separate the two doctrines—one, a *necessary condition of intelligibility* of what God has done, and the other, a *contingent fact* of how he actually carried it out. I feel sure that, if St. Thomas were presented with the new scientific data and theories available to us today, he would have no hesitation in adapting his metaphysical doctrine to this new context and would have been delighted with the much more powerful unity and interconnection of the cosmos with human history that now presents itself for our philosophical reflection.

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How does his metaphysical doctrine of dynamic natures with a spectrum of active potentialities fit in with the new developmental picture of the whole cosmos, to open up a whole world of constantly evolving—and unpredictable—novelty? The substantial forms of Thomas are not guided in their action by rigidly self-enclosed final causes ordered exclusively and immutably to their own immediate and particular self-actuation, as Whitehead seems to think is the case with Aristotelian substantial forms—and may well be the case since Aristotle believed so firmly in the fixity of species, with no overall creative intelligence ordering them to each other in a system. Felt seems to have implicitly transferred this deficiency (or perhaps blind spot) to the metaphysics of Aquinas too, who, unlike Aristotle, has a single creative divine intelligence at work ordering the natures of all species to form a single overall unified cosmic system—a world order. On the contrary, the Thomistic substantial forms are ordered by their very natures to interaction with the surrounding universe to form a vast web of interrelated entities—in a word, a “universe” (*universum* -turned toward unity). In our universe there are also great overarching laws governing and limiting these interactions within certain required conditions. So, God started off our material cosmos as a developmental story, with a definite beginning under very special extreme conditions of density, high temperature, and explosive force (the Big Bang), blowing this unimaginably condensed sum of all matter out into constantly expanding space. But the

special conditions of this rapidly evolving system do not allow the potentialities for combination in the extremely primitive natures—whatever they are—in this primordial soup to actualize themselves all at once. It took many thousands of years, for example, for the temperature to cool down enough so that the nucleus of atoms (protons, neutrons, *etc.*) could hold together to form a unity, and thousands more so that orbiting electrons could be held onto in order to form complete atoms; only later could atoms combine to form more complex—and fragile—molecules, and so on down through the whole unfolding of the cosmos into stars, galaxies, exploding stars, planets, and only then finally life, under very special conditions.

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The point is that the *active potentialities* for a wide range of interactions were already there in the primordial entities, but they could be actualized only slowly across time, as the overall cosmic conditions would permit. And the same holds true in a similar way for the whole world of living things, interconnected as they are in intricate ecological systems. And, it must be added, this evolutionary unfolding of the entire system is still going on, in both the living and the non-living spheres, in ways still unpredictable by us and extending into an unknown future.

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Now, if one puts together these two ingredients of a cosmos --(i) a beginning

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with a tremendous push toward development over time and space and (ii) a set of dynamic natures, each with a built-in spectrum of active potentialities for mutual interaction, as external conditions and partly chance encounters in a vast spatial matrix permit—it should be clear that there is here a vast range for constantly developing novelty throughout the history of our cosmos, most of it unpredictable for us. And, given this updated Thomistic metaphysics of active natures, it is no longer necessary to call on direct divine intervention into the structure of each new actual entity as the only way to ensure the emergence of novelty in the world. This is already amply provided for by the immanent structure of creatures themselves as *dynamic natures endowed with a range of active potentialities*, which allow many different ways of interacting with the world as occasion—partly determined by chance—permits.

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Ultimately, of course, it is the divine initiative which brings these natures and their basic laws of interaction into existence and launches them into action. But from then on the divine guidance can be carried out as *mediated* through the immanent causality of creatures themselves, not by direct intervention of the Creator himself, except in those special cases of a leap to a decisively higher mode of being among living beings which is beyond the power even of active created natures to bring about (*e.g.*, the passage to a spiritual intellectual soul in humans, and perhaps elsewhere as divine providence decides).

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But how about the other reason adduced by Whitehead why God must provide the initial subjective aims of each new actual entity, namely, to ensure the overall order, harmony, and beauty of the universe? In the revitalized Thomistic metaphysics that I have proposed above there is no need to treat the final causes, or goals of action of natures, as sealed within themselves in isolation from the rest of nature. The providence of God would rather express itself by initially ordering the varied natures of creatures toward each other in their innate potentialities as part of (limited participations in) a great overall unified plan of God, which is programmed to unfold through time as the evolving state of the cosmos makes possible. But this overall plan would be mediated through the immanent coordinated potentialities of created natures themselves (at least in the subrational order), allowing for special direct intervention wherever needed. But this would not require direct intervention of God in each new actual entity taken individually. The indispensable key to this position, however, is the notion of *dynamic natures*, which are distinct from their actions and *possess a range of active potentiality* that enables them to perform a plurality of interactions with the outside world, according as the total state of the cosmos, including the play of chance, makes possible.

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Notice that the above Thomistic solution through the mediation of created natures is not open to Whitehead himself because of the extremely limited scope which he allows to the notion

of active potentiality in his actual entities, linked to the very limited scope which he allows to efficient causality, as we have noted before. He limits both almost entirely, it seems, to the inner development or concrescence of an actual entity within itself; but they do not extend in any significant way to actively influencing or causing something new to happen in the outside world, nor to allowing a range of possible interactions with the outside world since this would require a perduring nature of some kind that is capable of

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several actions and not identical with just one that exhausts its active potentialities.

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But, granted that Thomists have their own way of taking care of this problem of novelty and world order, what *positive objections*, if any, would a contemporary Thomist have against the metaphysical plausibility or viability of the Whiteheadian solution? My main objection comes down to this: in any strong theory of efficient causality among creatures, where one being can produce a new being outside of it (out of pre-existing materials, of course), it is impossible to separate the new being—which must mean a new active nature of some kind—from the final cause (for Thomas) or the initial aim (for Whitehead) that unifies the nature and determines its characteristic modes of action. There can be no nature at all, for Thomas, without its own immanent operative final cause. There can be no real neutral subjects not yet unified and oriented toward action by an indwelling final cause. Either the created cause itself or God or both together *must produce the whole being*, built-in final cause and all, or not produce anything real. It is not metaphysically intelligible for either to produce on its own only half a real being. But Whitehead's God certainly does not produce the whole new actual entity; he only infuses the initial aim entirely by his own free intervention into some kind of real inchoate subject already provided from the side of creatures.

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I might add another tentative objection. In the Whiteheadian scheme, where God takes the initiative to infuse the initial aim into every new actual entity, it is not clear that enough play is allowed for *chance* in the world, which seems to be an intrinsic part of the new scientific picture, especially in the quantum world with its radical unpredictability of action in individual particles. Also, the progress of evolution seems to take place by a very slow process of trial and error, with many dead ends along the way; if God is directly guiding the whole process, it would seem that it should progress in a more efficient and rapid way, without leaving so much to the apparent play of chance. In a word, it is not clear to me just how real chance can enter in any significant way into the Whiteheadian scheme if God is *directly* infusing the initial aim in each new actual entity in harmony with his overall unified plan.

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This is not, I think, a crippling objection. Whiteheadians could well answer that, since each new actual entity can make its own spontaneous ("free"?) choice of how much of the initial aim infused into it by God it decides to take as its own subjective aim, the gap emerging between the ideal plan of God and the execution of it in the concrete leaves plenty of room for unpredictability and chance. True, there is place for chance there, but I am still puzzled as to why there should be such spontaneous resistance to the divine plan on the part of non-conscious entities below the human. In the Thomistic system, the overall plan of divine providence for the universe is not directly infused by God into each new actual entity but, except in special circumstances, is always mediated through the active causality of creaturely agents, which are themselves inserted in a matrix of chance encounters and intersecting lines of causality. The problem of physical evil and how it fits into God's plan does take on a certain acuteness here. I will not press this point further but rather just mention it as a concern.

VI. THE THOMISTIC THEORY OF INDIVIDUATION BY MATTER

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Individuation by matter is one of the special weaknesses that Professor Felt finds in the traditional Thomistic metaphysical system, weaknesses which he believes

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can be remedied by the Whiteheadian doctrine of the immediate infusion of the initial aim of each new actual entity directly by God in view of its particular place in the divine plan. This is a particularly technical point on which I will not delay long. But I think that it is worth a brief mention because of the widespread misunderstanding of the Thomistic position, which is due (to a considerable extent, in my opinion) to the excessively schematic, abstract, and overly condensed presentation of the doctrine both in Aristotle and in traditional Thomistic textbooks. I am not surprised that Felt finds it unsatisfactory. I did myself for years.

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But when one examines the doctrine a little more closely, especially with the (rarely adverted to) adaptations which St. Thomas has made to it, I think that the objections lose most of their force, and in fact it is hard to see how any other solution can cope with the problem as well as it does. (1) First of all, *individuation by matter*, which I specify further as *spatially extended matter* (since that is what does the job), is proposed as a solution only for the very precise and limited problem of explaining how the multiplication of members of the same species—all possessing the same specific form, yet distinct from each other in their individual existence—becomes metaphysically possible, intelligible. The point is that every member of the same species must be *essentially equal* to every other; there can be no essentially higher or lower degrees within the same species, otherwise they automatically become different species. This means that the form of every member must be *essentially the same in all its formal qualitative notes*. If the form is individuated by itself directly as form, together with its unique God-given initial aim—that is, not by its special relation to this distinct body but by its own intrinsic qualitative differences as form from every other subjectively aimed form—then it is not at all clear how it can be said to be the same specific form as in all other members of the species. It will be specifically qualitatively different precisely in the order of form (of formal properties) from the forms of other members of the so-called same species. And qualitative formal differences between forms necessarily generate different specific forms. (And on reflection, does not Whitehead too require as a necessary condition for the individuality of each new actual entity that it occupy a distinct location in the extensive continuum? Is not this remarkably similar to what Aquinas demands as a necessary—not sufficient—condition for individuation in a species?)

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Applied to human nature, this would mean that each human soul would be distinct from every other by its own qualitatively different spiritual properties as soul, not because of its relation to this particular body. But qualitatively different spiritual properties immediately open the door to higher and lower, superior and inferior members, master and servant races (male and female?). No longer could we say with our Declaration of Independence that "All men are created equal"; democracy, built on essential equality between all citizens, would have no metaphysical foundation but would be just an arbitrary political decree. The *theological consequences* would be grave too. In Christian theology we say that the Son of God "took on our human nature." But which human nature, since mine would be qualitatively different from yours precisely by its kind of soul? In every human body too there are many millions of instances of the same species of atoms and molecules—hydrogen and oxygen atoms, water molecules, and so on. But each one must have precisely the identical formal structure as every other (e.g., two hydrogen atoms for every one oxygen atom in water), and the slightest change in

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number or structure will yield a different element on the atomic scale. How can there be many instances of this identical formal structure side by side within the same body? These problems do not seem to me to have been thought through at all by the objectors to the Thomistic position, principally, I think, because they tend to pose the problem in the context of each individual being *considered by itself* and not, as St. Thomas always does, in the context of the same specific nature and, hence, form as *shared by many*—that is to say, in a participation context.

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2) As regards the positive solution of Thomas by individuation within a species by relation to different bodies (occupying different spatial localities, or localized diversely in space), it is frequently forgotten that extended matter, for St. Thomas, is only the ultimate *necessary condition of possibility* for multiplication of the same specific form; it is not the *sufficient* and solitary reason by itself. Unless there are first two spatially distinct areas of matter, it is not possible for the same specific kind of form to take over and organize into unity two distinct bodies, *i.e.*, for the form to be multiplied in the real order. But once the form (or spiritual human-type soul in a human being) is joined to a particular body in a distinct spatialized area of matter, immediately the form (or soul) takes over, unifies the matter, and begins a *distinctive history in our world*, carving out its own unique place and path in human and this-world history. This unique history is due to *both the form and the matter* working together—not just to the matter alone, as the objectors seem to suppose, but much more to the form, actively at work in the matter and expressing its own nature in the material framework of this world.

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I must call attention here to one serious misapprehension that has somehow crept into Felt's text: several times he asserts that in the Thomistic doctrine the spatialized matter is responsible "for the unity and individuation" of the entity. But the matter is in no way responsible for the *unity* of the individualized body; it is the form alone that unifies the matter. The matter makes it *possible* for two bodies with the same form to be *distinct* from each other, but it does not at all produce their unity, which is precisely and exclusively the work of the form. (I understand that Felt has now graciously acknowledged that attributing the unity of the individualized entity to the matter, in Thomas, was a mistake, and he has withdrawn this criticism. I leave in my own objection in the above paragraph only because it seems to me that this mistaken attribution on Felt's part was one of the principal reasons for his judging the hylemorphic theory to be inadequate, and since this charge has been withdrawn, a more significant revision of his whole critique on this point might be required.)

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3) Let me now come to a decisive point in the Thomistic doctrine of individuation which is commonly *ignored* by its objectors, and for the simple reason that it is all too often ignored even by Thomistic expositors of the doctrine themselves. It is clearly ignored here too in Felt's discussion. St. Thomas teaches explicitly, in his more detailed discussions of individuation as applied to the human composite, that the human soul itself in being created by God to be joined with a particular body is *uniquely and individually "commensurated" by God to this particular body*, adapted to fit this particular body. So, the spiritual soul itself (and similarly for all other lesser forms) is *individuated in its very soul* by its union with the body. But note the crucial difference: the soul itself is individuated not in itself as spiritual soul, as a *different kind of soul* with qualitatively different spiritual

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properties from other human souls, but precisely *by its relationship to the body*, as related to this body, adapted to express itself in and through this body and no other. Thus every human soul would possess the latent active potentiality to express itself through both a feminine and a masculine body, but not simultaneously (because of the limitations of the material body). But once God has "commensurated" a human soul to be incarnated in and express itself through a female or male body, then the soul itself can be said to have become "feminized" or "masculinized" because that is the only way in which it can now express itself in action in this world, in this life at least. So, in itself, a particular human soul would not be a female or male soul but, more accurately, a feminized or masculinized soul because of its union with the body. This is a whole positive aspect of individuation by matter which is rarely recognized and laid out, even by the Thomistic defenders of the general doctrine. But the texts of St. Thomas, though not numerous, are quite clear, for example:

Not every diversity of form causes diversity in species, but that diversity alone which concerns formal principles, or otherness in respect of the intelligible essence of the form.... Thus a multiplicity of souls separated from their bodies is due to the substantial diversity of the forms,

since the substance of this soul is other than the substance of that soul. This diversity, nonetheless, does not result from a diversity in the essential principles of the soul itself, nor from otherness in respect of the intelligible essence of the soul, but from diversity in commensuration of souls to bodies, since this soul is adapted to this and not to that body, and that soul to another body, and so in all other instances. And such adaptabilities remain in souls even after the bodies have perished, even as their substances remain, as not depending in their being on their bodies. (SCG II.81 n8)

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So, one could fault St. Thomas for not making explicit this part of his doctrine in his general metaphysical affirmations of individuation of form by matter, where he usually contents himself with asserting the need for matter as an ultimate necessary condition of possibility for multiplication of the same specific form in more than one member of the same species but does not describe further the individuation proper to the form which happens when the form is actually joined or adapted to a particular body. But here again, as so often, he contents himself with putting forth only so much of his position as is needed to meet the immediate point at issue, and he does not expand on further details until a special challenge or special occasion arises where it is necessary or helpful to do so.

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There is also a difficulty in Whitehead's solution: assigning the initial aim infused by God as the primary cause of the individuation of a new actual entity. Since God, for Whitehead, is not the cause of the whole being of any entity (which arises, in part, out of its own creativity) but only of the initial aim itself, God's action must presuppose as already present the initial distinct being of the actual entity. There must be something there to have anything infused into it. Hence, the infusion of the initial aim comes too late to be the source of the individuation; this is already presupposed: the inchoate being of the subject of the infusion must already be distinct from all other actual entities. The infusion of a unique initial aim does indeed make the entity different from every other. But it cannot provide the initial distinction of this entity from all others, making it a distinct receptive subject for the divine action. I fear that this importation of a

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Whiteheadian doctrine to solve a Thomistic problem may be trying to get us out of one hole but ends up only pushing us into another.

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In conclusion, as I look back over how this paper has developed, without my knowing exactly where it was going except that I was deeply and fruitfully enriched by the challenge, what has finally emerged is that, rather than construct a new synthesis of St. Thomas and Whitehead, as James Felt and I started out to do, I have actually reconstructed a more dynamic, flexible, revitalized Thomistic metaphysics, one that is more viable for our world as seen by science today but inspired by a few deep seminal insights of Whitehead himself, especially on the dynamic nature of being and the interwovenness of all real beings. And I am happy to add that, although I have many (perhaps insoluble) difficulties with Whitehead's technical metaphysical system, I have been deeply nourished by much of his remarkable wisdom about human nature, education, and the ideals of world peace and the cooperation of human beings to make this a better world, one more in tune with God's ideals for us. Whitehead is truly a wise man, a rare gift in our world of flawed and short-sighted humanity. Contact with such a person and thinker at any level is always an enriching gift, one for which I will always be sincerely grateful.

Notes

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1. This philosophical vision was especially celebrated at the International Whitehead Conference held in Claremont, California (4-9 August 1998). The original, briefer version of the present paper was delivered there, in a session on Whitehead and St. Thomas.

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[2.](#) *American Philosophers at Work*, ed. Sidney Hook (New York: Criterion, 1956) p. 12.

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[3.](#) Thomas Hosinski, *Stubborn Fact and Creative Advance: An Introduction to the Metaphysics of Alfred North Whitehead* (Lanham: Rowman & Littlefield, 1993) p. 244.

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[4.](#) Langdon Gilkey, *Reaping the Whirlwind: A Christian Interpretation of History* (New York: Seabury, 1976).

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[5.](#) In what follows I will not compare the whole Whiteheadian philosophy of God with that of St. Thomas since this would require a separate article in itself, and I have already done this elsewhere. Cf. "A New Look at the Immutability of God" in my *Explorations in Metaphysics* (Univ. of Notre Dame Press, 1994) ch. 5; and "Christian Theism and Whiteheadian Process Philosophy: Are They Compatible?" in my *The Philosophical Approach to God: A Neo-Thomist Perspective* (Winston Salem: Wake Forest University, 1979) ch. 3.

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[6.](#) Terence L. Nichols, "Aquinas's Concept of Substantial Form and Modern Science," *International Philosophical Quarterly* 36 (1996) 303-18.

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[7.](#) Cf. Reto Fetz, "In Critique of Whitehead," *Process Studies* 20 (1991) 1-9; Rem Edwards, "The Human Self: An Actual Entity or a Society?" *Process Studies* 5 (1975) 199-203; and J. P. Moreland, "An Enduring Self: The Achilles' Heel of Process Philosophy," *Process Studies* 17 (1998) 193-99. I was delighted to see that Jorge Nobo, speaking at the same International Whitehead Conference (Claremont, 1998) and presenting his own new Whitehead-inspired social ontology, recognized the need to do more justice to the abiding presence of the human self (and other similar active agents) across time and so added a new category of the real to the classic Whiteheadian one: the notion of an "integrity," which, unlike the traditional Whiteheadian actual entity, perdures in existence and activity across time.

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[8.](#) Ivor Leclerc, "The Problem of the Physical Existent," *International Philosophical Quarterly* 9 (1969) 40-62.

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[9.](#) See ch. 6 in my *Explorations in Metaphysics*.

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[10.](#) James Felt, S.J., "Whitehead's Misconception of Substance in Aristotle," *Process Studies* 14 (1985) 224-36.

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[11.](#) See, however, Joseph Bobik, *Aquinas on Matter and Form and the Elements* (Notre Dame: Univ. of Notre Dame Press, 1998), who gathers all the texts and comments on them.

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[12.](#) See my article "Action as the Self-Manifestation of Being: A Central Theme in the Thought of St. Thomas" in my *Explorations in Metaphysics*, ch. 3; also, Joseph de Finance, *Être et Agir dans la Philosophie de S. Thomas*, 2nd edn. (Rome: Gregorian Univ. Press, 1960).

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[13.](#) Alfred North Whitehead, *Adventures of Ideas* (New York: Free Press, 1967), respectively pp. 197, 193-94, and 188. See the remarkable article of Elizabeth Kraus, "Existence as Transaction: A Whiteheadian Study of Causality," *International Philosophical Quarterly* 25 (1985) 349-68. I shall refer to this again in the next section.

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[14.](#) Jorge Nobo, "Transition in Whitehead: A Creative Process Distinct from Concrecence," *International Philosophical Quarterly* 9 (1969) 265-83.

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[15.](#) Kraus, "Existence," pp. 360-61; AI = Alfred North Whitehead's *Adventures in Ideas* (New York: Free Press, 1967).

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[16.](#) *Ibid.*, pp. 364-65; PR = Alfred North Whitehead's *Process and Reality*, ed. David Ray Griffin and Donald W. Sherburne (New York: Free Press, 1978).

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17. I somehow like this older terminology, once used by many, but I am told that contemporary scholars prefer to separate more sharply the initial aim, which is infused by God directly, and the subjective aim, which refers only to the active appropriation by the concurring entity of what it decides to take as its own actual subjective aim from the initial aim provided by God. I am happy in what follows to respect this usage.

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18. Cf. *Hosinski, Stubborn Fact and Creative Advance*, p. 156.

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