

# Aquinas on forms, individuation and matter

Autor(en): **Meixner, Uwe**

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UWE MEIXNER

## Aquinas on Forms, Individuation and Matter\*

I. In «Aquinas on the Essential Composition of Objects» (Freiburger Zeitschrift für Philosophie und Theologie 38 (1991) 317–350; the article is subsequently referred to by «Essential Composition») a formal language T was used to formulate an axiomatic theory TO that *more geometrico* (that is, by the deduction of theorems from axioms and definitions, employing the resources of modern formal logic) captures a large portion of Thomas Aquinas' teachings on the (substantial) form, essence, being and matter of objects (that is, *existing* objects, or in another word: substances), be those objects material or immaterial, created or uncreated. The consistency of this axiomatization of Aquinas' thought was proved; hence inconsistency is not a charge that can be raised against his central ontological doctrines – including the doctrine of the real distinction between the essence and the being (or *esse*) of created substances. In this paper we are going to enrich T and TO, what will enable us to formalize an even larger portion of Thomas' ontology; as in «Essential Composition» every formal development will be justified or at least made plausible by citations from Thomas' works. Among other things, I will give a formal presentation of Thomasic individuation-principles (there are several, not only one). In the final part of the paper I analyze the conceptual content of Thomas' central ontological notions (those mentioned above), their formal interrelations having been treated exhaustively. I conclude with a synopsis of his theory of forms.

II. For the description of T and TO and their detailed exegetical justification on the basis of Thomasic writings the reader is referred to «Essential Composition». (Some of the abbreviations OV, ON, OD, PAE, SAE, TAE, AE, ED, PSL, SL and S that were used there for describing the syntax of T recur in this paper.) In that article 29 theorems were pro-

\* In memoriam J.M. Bochenski.

ved (on the basis of two groups of axioms, A and B) and 8 definitions introduced. In presenting new theorems and definitions I will continue the numbering of the theorems and definitions in «Essential Composition», which are here frequently invoked. (The logical notation of that article was different, but correspondences can easily be established by the reader.)

III. T (with changed logical notation) enriched by the monadic predicates L and H constitutes the language 1T. The syntactical rules of T we assume to be rewritten for 1T. The rewriting consists in replacing «T» by «1T», with one exception: the specification of PSLs is now reading: «PSLs of 1T: the expressions having the form  $(\beta=\beta')$  or  $L(0)$  or  $H(0)$  ( $\beta, \beta'$  being EDs of 1T, 0 an OD of 1T)». We also assume all definitions of T to be rewritten for 1T. The intended interpretation of 1T is the same as that of T, with the addition that a sentential of 1T  $L(0)$  is to be read as «0 is a living object (substance)», and a sentential of 1T  $H(0)$  as «0 is a human object (substance)».

We continue with D9:  $A(0) := \forall n(L(n) \& M(n) \& 0=a(n))$  (for all EDs 0 and OVs n of 1T, where n does not occur in 0). According to the intended interpretation of 1T and in view of Thomasic doctrine which states that a soul is the actuating form of a living body, A(0) as defined by D9 can be read as «0 is a soul». If 0 refers to a living body we read «a(0)» as «the soul of 0». Aquinas says: 1. «anima est primum quo vivimus, cum tamen vivimus anima et corpore: ergo anima est forma corporis viventis. Et haec est definitio superius de anima posita, quod anima est actus primus physici corporis potentia vitam habentis» (In Aristotelis librum de anima commentarium, 2,4,271).

It is apparent that «forma» here does not mean *pure form*, but *actuating form*; else the soul would not also be «actus primus physici corporis potentia vitam habentis». Moreover, if «forma» here did not mean *actuating form*, but *pure form*, it would be incorrect to call the composite of body and soul «this something» («object», that is here: «material object»): 2. «compositum ex anima et corpore dicitur *hoc aliquid*» (Summa theologiae, 1,75,2). Compare also: «3. ex anima et corpore resultat unum esse in uno composito» (De ente et essentia, 4,29). It would only be correct to call the composite of body, soul, *and* being (*esse*) «this something».

Evidently, «corpus vivens» and «corpus potentia vitam habens» have different meanings. A living body is an object (a plant, an animal, a human being), while a body that potentially has life is the matter of a living body. Aquinas uses the word «corpus» (if it does not simply mean *material object*) both in the sense of «corpus vivens» and in the sense of «corpus potentia vitam habens», and it must be determined from the context what exactly is meant. When he says «compositum ex anima et cor-

pore dicitur *hoc aliquid*», then he means by «corpus» the same as is meant by «corpus potentia vitam habens»; when, however, he says: 4. «Ex praemissis igitur manifeste ostendi potest animam humanam non corrumpi, corrupto corpore» (Summa contra gentiles, 2,79), he is using «corpus» in the sense of «corpus vivens».

D9 is the first definition that introduces a predicate which forms well-formed expressions not only with ODs of 1T but with all EDs of 1T. Another definition that does this is D10:  $\text{Sub}(0) := \forall n(0=n)$  (for all EDs 0 and OVs n of 1T, where n does not occur in 0). According to the intended interpretation we may read  $\text{Sub}(0)$  as defined by D10 as «0 is a (first) substance» or as «0 is an object» (or as «0 subsists»).  $(x)\text{Sub}(x)$  is a trivial logical truth; it means according to the intended interpretation that every object is an object; but from it we cannot infer « $\text{Sub}(0)$ » for every ED 0 of 1T, which according to the intended interpretation means that all (considered) entities (be they quantified over or merely designated) are objects. The deductive restrictions specified for the logic of T also apply to the logic of 1T.

TO rewritten for 1T and enriched by the axioms C1:  $(x)(H(x) \supset L(x) \& M(x))$ , C2:  $(x)(H(x) \supset \forall x'(I(x') \& x'=a(x)))$ , C3:  $\forall xH(x)$  constitutes part of system 1TO. *Concerning C1*: According to the intended interpretation C1 says that every human object is a living material object. But isn't Socrates a human object that is not a living material object? Here we must remember that we are using the word «object» in the sense of «existent object». Now, «existent» may mean the same as «now existent» or the same as «at some time existent», and the meaning of «living» has to be distinguished accordingly, since: 5. «vivere enim est esse viventis» (Summa contra gentiles, 2,57). If «existent» means the same as «now existent» and «living» the same as «now living», then Socrates is neither a human object (human now existent object) nor a living (now living) material object; if «existent» means the same as «at some time existent» and «living» the same as «at some time living», then Socrates is both a human object (human at some time existent object) and a living (at some time living) material object. Instead of «human object» we say more familiarly «human being», and instead of «living material object» «living body»; but it must be kept in mind that these predicates (and all others introduced as readings of formal predicates forming sententials with ODs of 1T) have an existential (and substantial) import according to the intended interpretation. – There is no question that C1 squares with Thomasic (but not with Cartesian or Platonic) doctrine.

*Concerning C2*: C2 says that the actuating form, that is, in view of C1, the soul of every human being is a created immaterial object (an intelligence). This cannot be expressed in the following manner:  $(x)(H(x) \supset I(a(x)))$ , since this is not a well-formed expression of 1T (see «Essential Composition»). Aquinas writes: 6. «Est ergo distinctio earum

[intelligentiarum] ad invicem, secundum gradum potentiae et actus; ita quod intelligentia superior, quae magis propinqua est primo, habet plus de actu et minus de potentia, et sic de aliis. Et hoc completur in anima humana, quae tenet ultimum gradum in substantiis intellectualibus» (De ente et essentia, 5,29).

*Concerning C3:* C3 simply states an empirical fact: there are human beings. C3 is the first axiom stating the existence of a certain kind of object.

In the intended interpretation, Aquinas would have agreed to  $(x)(H(x) \text{ iff } L(x) \& M(x) \& \forall x'(I(x') \& x'=a(x)))$ . Not so a modern Thomist who knows that the universe is much larger than Aquinas thought it to be. For all he knows, it may well contain a living body whose actuating form is an intellectual substance, but which is not a human being (for example, because it has an amoeba-like appearance).

C2 is a problematic axiom, for by C3 we can deduce from it  $\forall x'I(x')$  – «There are intellectual substances». Not so problematic is C1; by C3 we can deduce from it  $\forall x'M(x)$  – «There are material objects».

There is evidence that Aquinas would also have agreed to  $(x)(H(x) \text{ iff } L(x) \& M(x) \& \text{Sub}(a(x)))$ : We have C1 and 7. «Relinquitur igitur animam humanam, quae dicitur intellectus vel mens esse aliquid incorporeum et subsistens» (Summa theologiae, 1,75,2), which supports  $(x)(H(x) > \text{Sub}(a(x)))$ ; and Aquinas states 8. «relinquitur quod, cum animae brutorum animalium per se non operentur, non sint subsistentes: similiter enim unumquodque habet esse et operationem» (Summa theologiae, 1,75,3), which supports  $(x)(\text{non } H(x) \& L(x) \& M(x) > \text{nonSub}(a(x)))$ , since Aquinas would agree to: (a) that every non-human living material object is a brute animal or a plant; (b) that the souls of plants do not subsist (are not substances). From C1,  $(x)(H(x) > \text{Sub}(a(x)))$ ,  $(x)(\text{non } H(x) \& L(x) \& M(x) > \text{nonSub}(a(x)))$  we get  $(x)(H(x) \text{ iff } L(x) \& M(x) \& \text{Sub}(a(x)))$ .

$L(x) \& M(x) \& \text{Sub}(a(x))$  and  $L(x) \& M(x) \& \forall x'(I(x') \& x'=a(x))$  are (initially) not provably equivalent sententials of 1T; from  $\forall x'(I(x') \& x'=a(x))$  we get  $\text{Sub}(a(x))$  (by D10), but not vice versa. The gap between  $L(x) \& M(x) \& \text{Sub}(a(x))$  and  $L(x) \& M(x) \& \forall x'(I(x') \& x'=a(x))$  can in keeping with Thomistic doctrine be closed by two further axioms of 1TO, C4:  $(x)(x')(x'=a(x) \vee x'=f(x) > \text{non } M(x'))$  (If an object is the actuating or pure form of an object, then it is immaterial; C4 contains B5 and T2 as special cases), and C5:  $(x')(x)(M(x) \& x'=a(x) > C(x'))$  (If an object is the actuating form of a material object, then it is created). From C5 follows  $(x)(H(x) > \text{non } \forall x'(D(x') \& x'=a(x)))$  – «The soul of a human being is not a divine object». *Proof:* assume  $H(x)$ ,  $\forall x'(D(x') \& x'=a(x))$ , hence by C1  $M(x)$ , hence  $\forall x'(M(x) \& x'=a(x) \& D(x'))$ , hence by C5  $\forall x'(C(x') \& D(x'))$ , which is a contradiction by D5.

IV. Following the lead of D9 and D10 we can define a whole series of entity-predicates (in contradistinction to object-predicates). D11: For all EDs 0 of 1T and OVs n of 1T not in 0: (a1)  $FP(0) := \forall n(0=f(n))$ , (a2)  $FA(0) := \forall n(0=a(n))$ , (b)  $S(0) := \forall n(0=s(n))$ , (c)  $W(0) := \forall n(0=w(n))$ , (d)  $Mat(0) := \forall n(M(n) \& 0=m(n))$ , (e)  $N(0) := \forall n(0=c(n))$ , (f)  $F(0) := FP(0) \vee FA(0)$ . The definienda are to be read as «0 is a pure (substantial) form», «0 is an actuating (substantial) form», «0 is an esse» (instead of «0 is a being» which is ambiguous; it could also mean the same as «0 is an entity» or «0 is an object»), «0 is an essence», «0 is a (parcel of) matter» («0 is a *materia determinata*»), «0 is an empty aspect», «0 is a pure or actuating form».

Since we are still concerned with what Aquinas says about the essential composition of objects, substantial forms are the only forms we are dealing with (but compare section XIV). (This is the reason why we simply say «form» instead of «substantial form».) Of course Aquinas has accidental forms, too.

By being a substantial form a form is not automatically a subsistent form, a form which is a substance (an object). Without doubt, however, some substantial forms are for Aquinas subsistent forms: T30:  $\forall x'FA(x')$  (*There is an object which is an actuating form*). Proof:  $\forall xH(x)$  by C3, hence  $\forall x\forall x'(I(x') \& x'=a(x))$  by C2, hence  $\forall x'\forall x(x'=a(x))$ , hence  $\forall x'FA(x')$  by D11(a2). The existence of subsistent actuating forms – namely of human souls – follows in view of C2 from the existence of human beings. We will prove later on, on the basis of one more axiom of 1TO, that there is also a subsistent pure form.

Being an immaterial object coincides with being an object which is an actuating form: T31:  $(x)(\text{non}M(x) \text{ iff } FA(x))$ . Proof: (i) assume  $\text{non}M(x)$ , hence by D3, T1  $x=a(x)$ , hence  $\forall x'(x=a(x'))$ , hence by D11(a2)  $FA(x)$ ; (ii) assume  $FA(x)$ , hence by D11  $\forall x'(x=a(x'))$ , hence by C4  $\text{non}M(x)$ . Further we have T32:  $(x)(D(x) > FP(x))$  (*Every divine object is a subsistent pure form*). Proof: assume  $D(x)$ , hence by T21(e)  $x=f(x)$ , hence  $\forall x'(x=f(x'))$ , hence  $FP(x)$ . The converse of T32 is not provable. T33:  $(x)(FP(x) > FA(x))$  (*Every subsistent pure form is a subsistent actuating form*). Proof: assume  $FP(x)$ , hence  $\forall x'(x=f(x'))$  by D11(a1), hence  $\text{non}M(x)$  by C4, hence  $x=a(x)$  by T1, D3, hence  $\forall x'(x=a(x'))$ , hence  $FA(x)$  by D11(a2). From T33 we obtain easily by D11(f) T34:  $(x)(F(x) \text{ iff } FA(x))$  (*The subsistent pure or actuating forms are the subsistent actuating forms*). And from T34 and T31 we obtain T35:  $(x)(M(x) \text{ iff } \text{non}F(x))$  (*Every object is either a material object or a subsistent pure or actuating form*).

V. Aquinas holds that there is at most one subsistent esse (an esse which is an object): 9. «Esse autem, in quantum est esse, non potest esse diversum; potest autem diversificari per aliquid quod est praeter esse, sicut

esse lapidis est aliud ab esse hominis. Illud igitur quod est subsistens non potest esse nisi unum tantum» (Summa contra gentiles, 2,52). That is,  $\forall xS(x) \supset \forall x(S(x) \& (x')(S(x') \supset x=x'))$ , which is logically equivalent to a further axiom of 1TO, C6:  $(x)(x')(S(x) \& S(x') \supset x=x')$ . Moreover Aquinas holds that there is a divine object, C7:  $\forall xD(x)$ .

By C6 and C7 we have the following theorems: T36:  $\forall xFP(x)$  (*There is a subsistent pure form*). *Proof*: T32, C7. T37:  $\forall!xS(x)$  (*There is exactly one subsistent esse*). *Proof*:  $\forall xD(x)$  by C7, hence  $\forall x(x=s(x))$  by T21(c), hence  $\forall x\forall x'(x=s(x'))$ , hence  $\forall xS(x)$  by D11(b), hence  $\forall!xS(x)$  by C6. T38:  $(x)(D(x) \supset S(x))$  (*Every divine object is a subsistent esse*). *Proof*: assume  $D(x)$ , hence  $x=s(x)$  by T21(c), hence  $\forall x'(x=s(x'))$ , hence  $S(x)$  by D11(b). T39:  $(x)(x')(D(x) \& D(x') \supset x=x')$  (*There is at most one divine object*). *Proof*: T38, C6. Concerning C6, T38 (and its proof with the help of T21(c)) and T39 (and its proof with the help of T38, C6) compare the following quotation: 10. «Item, esse abstractum est unum tantum; ut albedo si esset abstracta, esset una tantum. Sed Deus est ipsum esse abstractum, quum sit suum esse, ut probatum est supra. Impossibile est igitur esse nisi unum Deum» (Summa contra gentiles, 1,42). T40:  $\forall!xD(x)$  (*There is exactly one divine object*). *Proof*: C7, T39. T41:  $(x)(D(x) \text{ iff } S(x))$  (*The divine objects are the subsistent «esses»*). *Proof*: T38; assume  $S(x)$ ;  $\forall x'D(x')$  by C7, hence by T38  $\forall x'(D(x') \& S(x'))$ , hence by C6  $D(x)$ . If we introduce into 1T the operator of definite description «i» (forming complex ONs from monadic predicates) and employ its logic, we can prove T42:  $ixD(x)=ixS(x)$  (*God is the subsistent esse*). *Proof*: T41, T40. Compare: 11. «Deus est ipsum esse per se subsistens» (Summa theologiae, 1,44,1). The reading of  $ixD(x)$  – «the divine object» – as «God» is reflected in D12:  $d := ixD(x)$ . T43:  $d=s(d) \& (x)(x=s(x) \supset x=d)$  (*God is the only object that is its being*). *Proof*:  $\forall!xD(x)$  by T40, hence  $D(ixD(x))$ , hence  $D(d)$  by D12, hence  $d=s(d)$  by T21(c); assume  $x=s(x)$ ; hence  $\forall x'(x=s(x')) \& \forall x'(d=s(x'))$ , hence by D11(b) and C6  $x=d$ . Compare with T43 and its proof the following quotation (the continuation of quotation 9): 12. «Illud [esse] igitur quod est subsistens non potest esse nisi unum tantum. Ostensum est autem quod Deus est suum esse subsistens. Nihil igitur aliud praeter Ipsum potest esse suum esse: oportet igitur in omni substantia quae est praeter Ipsum, aliud esse ipsam substantiam et aliud eius esse» (Summa contra gentiles, 2,52). Further: T44:  $w(d)=s(d) \& (x)(w(x)=s(x) \supset x=d)$  (*God is the only object whose essence is its being*). *Proof*:  $\forall!xD(x)$  by T40, hence  $D(ixD(x))$ , hence  $D(d)$  by D12, hence  $w(d)=s(d)$  by D5, D4; assume  $w(x)=s(x)$ , hence  $D(x)$  by T15, D4; hence  $x=d$  by T39 ( $D(d)$ ). T45:  $W(d) \& FA(d) \& FP(d)$  (*God is a subsistent essence, a subsistent actuating form, and a subsistent pure form*). *Proof*:  $D(d)$  by T40, D12; hence  $d=w(d)$  by T21(b), hence  $\forall x'(d=w(x'))$ , hence  $W(d)$  by D11(c); hence  $d=a(d)$  by T16(a), D3, T1, hence  $\forall x'(d=a(x'))$ ,

hence  $FA(d)$  by D11(a2); hence  $d=f(d)$  by T21(e), hence  $\forall x'(d=f(x'))$ , hence  $FP(d)$  by D11(a1).

While by now it is both possible to prove that God is the only object that is its essence, and that God is the only object that is its pure form, it is neither possible to prove that God is the only subsistent essence (the only object that is an essence), nor that God is the only subsistent pure form. As far as I know, Aquinas says nowhere that God is the only subsistent essence, and, of course, he does not say that God is the only subsistent pure form, since he does not distinguish between actuating form and pure form (although he should; see «Essential Composition», p. 320), and thus there are, to his mind, simply many subsistent forms. But those propositions may be considered to be in the spirit of Aquinas. By adding  $(x)(x')(W(x)\&W(x')\supset x=x')$  and  $(x)(x')(FP(x)\&FP(x')\supset x=x')$  to 1TO they become provable in 1TO (relative to the intended interpretation of 1T), and hence also  $d=ixS(x)=ixW(x)=ixFP(x)$  - «God is the subsistent esse, which is the subsistent essence, which is the subsistent pure form».

While for all objects other than God being an object (a subsistent, and hence existent entity) means being a substance (*substantia prima*), Aquinas denies that God is a substance (compare *Summa Theologiae*, 1,3,5); this should not keep us from calling God a substance, and from using the terms «substance» and «object» interchangeably wherever they occur. Aquinas' main motivation in excluding God from the genus of substance is to stress the incomparability of God.

VI. While Aquinas acknowledges subsistent actuating or pure forms, a subsistent esse and a subsistent essence, he does not acknowledge a subsistent matter (compare quotation 10 in «Essential Composition»): C8:  $\text{non}\forall x\text{Mat}(x)$ . And of course we can add C9:  $\text{non}\forall x\text{N}(x)$  (*There is no subsistent empty aspect*). On the basis of D10 and D11 C8 is equivalent to T46:  $(x')(M(x')\supset \text{nonSub}(m(x')))$ , and C9 equivalent to T47:  $(x')\text{nonSub}(c(x'))$ . T47 contains B4(a)  $(x)\text{non } x=c(x)$  as a special case. From T46 and T47 we obtain T48:  $(x')\text{nonSub}(m(x'))$  (*The matter of no object is a substance*). *Proof*: (i) assume  $M(x')$ , hence  $\text{nonSub}(m(x'))$  by T46; (ii) assume  $\text{non}M(x')$ , hence by D3  $m(x')=c(x')$ ;  $\text{nonSub}(c(x'))$  by T47; hence  $\text{nonSub}(m(x'))$ . From T48 follows directly T24:  $(x)\text{non } x=m(x)$ . – As T48 is a generalization of T24, so  $(x')\text{non}W(m(x'))$  is a generalization of T25:  $(x)\text{non } w(x)=m(x)$ . In order to obtain  $(x')\text{non}W(m(x'))$  as a theorem – «The matter of no object is an essence» – we need to add further axioms: C10:  $(x')(M(x')\supset \text{non}W(m(x')))$ , C11:  $(x')\text{non}W(c(x'))$ . From these axioms T49:  $(x')\text{non}W(m(x'))$  follows in the same manner as T48 follows from T46 and T47. (The axioms C4, C9, C11 by containing as special cases axioms of the system TO (B5, B4(a), B4(e)) can replace those axioms.)



VII. We leave 1TO in the state attained so far; whatever 1TO will finally amount to, let 2TO be 1TO enriched by the Thomasic *individuation-axioms*. Individuation-axioms have the general form  $(x)(x')(B[\beta(x)=\beta(x')]\supset A[x,x'])$  or the general form  $(x)(x')(A[x,x']\supset \beta(x)=\beta(x'))$ , where  $\beta(x)$  is an AE of 1T having  $x$  as its OV.

Is every S of T1 having the form  $(x)(x')(\beta(x)=\beta(x')\supset x=x')$  a Thomasic individuation-axiom? Even if it were so, we could not consistently add «Every S of 1T having the form  $(x)(x')(\beta(x)=\beta(x')\supset x=x')$  is an axiom of 2TO» to 1TO; since we can prove in 1TO T50:  $\forall x\forall x'(a(x)=a(x')\ \&\ \text{non } x=x')$  (*There are different objects whose actuating forms are identical*). *Proof*:  $\forall xH(x)$  by C3, hence by C2  $\forall x(H(x)\ \&\ \forall x'(I(x')\ \&\ x'=a(x)))$ , hence  $\forall x\forall x'(H(x)\ \&\ I(x')\ \&\ x'=a(x))$ , hence by C1, D6  $\forall x\forall x'(M(x)\ \&\ \text{non}M(x')\ \&\ x'=a(x))$ , hence by T1, D3  $\forall x\forall x'(M(x)\ \&\ \text{non}M(x')\ \&\ x'=a(x')\ \&\ x'=a(x))$ , hence  $\forall x\forall x'(a(x)=a(x')\ \&\ \text{non } x=x')$ . The actuating form of the soul of a human being, which is an immaterial object, is the soul itself, which is the actuating form of the human being; hence these actuating forms are identical; but the soul of a human being is not the human being, the one being an immaterial object, the other material: 13. «Plato posuit quod homo non sit aliquid compositum ex anima et corpore, sed quod ipsa anima utens corpore sit homo; sicut Petrus non est aliquid compositum ex homine et indumento, sed homo utens indumento. Hoc autem esse impossibile ostenditur» (Summa contra gentiles, 2,57).

It is in keeping with the purely auxiliary character of empty aspects to *assume*  $(x)(x')(x=x\ \&\ x'=x'\supset c(x)=c(x'))$ , which is logically equivalent to  $(x)(x')(c(x)=c(x'))$ , as a Thomasic individuation-axiom: I1:  $(x)(x')(c(x)=c(x'))$  (*The empty aspects of all objects are identical*). I1 has to be *assumed*, since, of course, there is no evidence in the writings of Aquinas for it: Aquinas had no idea of empty aspects. (But Aquinas, we may plausibly say, would have agreed to it if he had known the great usefulness of empty aspects for the systematic formulation of his ontological doctrines, in which alone the function of empty aspects consists.) Given I1 we can easily prove T51:  $\forall x\forall x'(m(x)=m(x')\ \&\ \text{non } x=x')$  (*There are different objects whose matters are identical*). Neither God nor the human soul have matter, hence their «matters» are identical; but they themselves are different, since the human soul is created, but God is not. T51 is – besides T50 – a counter-example to  $(x)(x')(\beta(x)=\beta(x')\supset x=x')$  as a schema of Thomasic individuation-axioms.

Aquinas *does not* assert  $(x)(x')(m(x)=m(x')\supset x=x')$ . When he says 14. «individuationis principium est materia» (De ente et essentia, 2,7), he is not asserting an individuation-principle for all objects (as is clear from the context), but only one for all material objects, I2:  $(x)(x')(M(x)\ \&\ M(x')\ \&\ m(x)=m(x')\supset x=x')$  (*Material objects that have the same matter are identical*). – Just as  $(x)(x')(m(x)=m(x')\supset x=x')$  is not Thomastically valid, but  $(x)(x')(M(x)\ \&\ M(x')\ \&\ m(x)=m(x')\supset x=x')$  is, so  $(x)(x')(a(x)=$

$a(x') > x = x'$ ) is not Thomastically valid, but T52:  $(x)(x')(nonM(x) \& nonM(x') \& a(x) = a(x') > x = x')$  (*Immaterial objects that have the same actuating form are identical*) is. *Proof*: assume  $nonM(x) \& nonM(x') \& a(x) = a(x')$ , hence by D3, T1  $x = a(x) \& x' = a(x') \& a(x) = a(x')$ , hence  $x = x'$ . Moreover Aquinas says: 15. «Animae humanae multiplicantur secundum multiplicationem corporum, ut supra ostensum est» (Summa contra gentiles, 2,80). Hence we can add  $(x)(x')(H(x) \& H(x') \& a(x) = a(x') > x = x')$  («If  $x$  and  $x'$  are human beings and their souls are identical, then  $x$  and  $x'$  are identical») to the Thomasic individuation-axioms; that is, if we take the word «corpus» in the above quotation to mean the same as «corpus vivens». If we take it to mean the same as «corpus potentia vitam habens» (concerning the distinction between «corpus vivens» and «corpus potentia vitam habens» see above, section III), we rather ought to add  $(x)(x')(H(x) \& H(x') \& a(x) = a(x') > m(x) = m(x'))$ . However, which of the two sentences we choose does not matter after all, since they are equivalent in view of C1 and I2, and so are  $(x)(x')(M(x) \& M(x') \& a(x) = a(x') > x = x')$  and  $(x)(x')(M(x) \& M(x') \& a(x) = a(x') > m(x) = m(x'))$ .

In fact we posit as a Thomasic individuation-axiom I3:  $(x)(x')(M(x) \& M(x') \& a(x) = a(x') > x = x')$  (*Material objects that have the same actuating form are identical*). I3 is more general than  $(x)(x')(H(x) \& H(x') \& a(x) = a(x') > x = x')$  (in view of C1); and Aquinas says: 16. «Impossibile est enim plurium numero diversorum esse unam formam, sicut impossibile est quod eorum sit unum esse» (Summa theologiae, 1,76,2). This cannot be represented by  $(x)(x')(a(x) = a(x') > x = x')$ , which is contradicted by T50; and it cannot be represented by  $(x)(x')(f(x) = f(x') > x = x')$ , since Aquinas by «forma» clearly means actuating form in the context from which quotation 16 is taken: 17. «Respondeo dicendum quod intellectus esse unum omnium hominum omnino est impossibile. ... Similiter etiam patet hoc esse impossibile, si, secundum sententiam Aristotelis, intellectus ponatur pars, seu potentia, animae quae est hominis forma. [quotation 16]: nam forma est essendi principium» (Summa theologiae, 1,76,2). The argument in quotation 17, of which quotation 16 is a part, is used to decide the question «Utrum intellectivum principium multiplicetur secundum multiplicationem corporum» in the positive. For this it is sufficient to suppose that different *material objects* have different actuating forms (I3), and this is what Aquinas intends by «impossibile est enim plurium numero diversorum esse unam formam»; then: different human beings have different souls ( $(x)(x')(H(x) \& H(x') \& a(x) = a(x') > x = x')$ ), hence (?) the intellects of different human beings are different.

Quotation 17 contains more information than is pertaining to I3 alone; namely information that is represented by the principle  $(x)(x')(M(x) \& M(x') \& s(x) = s(x') > x = x')$ . If we say that part of quotation 17 is represented by I3, and – in spite of the literal content – not by  $(x)(x')(a(x) = a(x') > x = x')$ , it is only appropriate to say that another part of

quotation 17 (what follows after «sicut» in quotation 16) is represented by  $(x)(x')(M(x) \& M(x') \& s(x)=s(x') \supset x=x')$ , and – again in spite of the literal content – not by  $(x)(x')(s(x)=s(x') \supset x=x')$ . However, there is independent support for this latter principle: 18. «esse diversum est in diversis» (De ente et essentia, 5,30). Thus we accept as a fourth Thomasic individuation-axiom I4:  $(x)(x')(s(x)=s(x') \supset x=x')$ .

VIII. I4 shows that, while not every sentence of 1T having the form  $(x)(x')(\beta(x)=\beta(x') \supset x=x')$  is a Thomasic individuation-axiom, at least one sentence is. Is  $(x)(x')(f(x)=f(x') \supset x=x')$  another one? It seems, the question has to be denied. There are in fact not only one but several human beings; but they all have the same pure (substantial) form: humanity (while each of the many human beings has a different actuating (substantial) form, that is, a different soul); hence there are different objects that have the same pure form.

This argument presupposes that the pure form of a human being  $x$  is *humanity*. But alternatively we could say that the pure form of a human being  $x$  is not humanity, but rather *the humanity of  $x$* , and if  $x$  and  $y$  are different human beings, then the humanity of  $x$  – the pure form of  $x$  – is different from the humanity of  $y$  – the pure form of  $y$ ; and that consequently there is no counter-example to  $(x)(x')(f(x)=f(x') \supset x=x')$  in the realm of human beings. Which of these two arguments is in the spirit of Aquinas?

In Thomasic ontological doctrine there are several distinctions concerning forms (the word «form» is still always to be taken to mean the same as «substantial form»). The distinction between subsistent forms and non-subsistent forms, the distinction (although not recognized by Aquinas) between pure forms and actuating forms have been discussed. Now yet another Thomasic distinction concerning forms becomes relevant: the distinction between *universal* and *individual forms*. In the following passage Aquinas is speaking about universal forms: 19. «formae quae sunt receptibiles in materia, individuuntur per materiam, quae non potest esse in alio, cum sit primum subiectum substans: forma vero, quantum est de se, nisi aliquid aliud impediatur, recipi potest a pluribus» (Summa theologiae, 1,3,2). Universal forms, if receivable in matter, «can be received by many»; universal forms that are receivable in matter are individuated by matter. Individuated universal forms are no longer universal forms, but are individual forms; for example, by being individuated by the matter of the human being  $x$ , the universal form *humanity* becomes the individual form *the humanity of  $x$* : 20. «Forma vero finitur per materiam, in quantum forma, in se considerata, communis est ad multa: sed per hoc quod recipitur in materia fit forma determinate huius rei» (Summa theologiae, 1,7,1). Every object has exactly one individual and exactly one universal form. The universal form of an object is simply its

(natural) kind (*species*), which is particularized in the object to constitute the individual form of the object. Thus: For every human being  $x$ : *the universal (substantial) form of  $x$*  is humanity, *the individual (substantial) form of  $x$*  is *the humanity of  $x$* . We know that the actuating form of a human being  $x$  is *the soul of  $x$* . What is the pure form of  $x$ ?

We proceed on the basis of the assumption that the functions assigning the universal form and the individual form to objects are each identical (on the basis of Thomasic doctrine) to one of the six basic aspect-functions. From these we rule out *the matter of*, *the empty aspect of* and *the being of*; obviously neither *the universal form of* nor *the individual form of* can be identified with one of those functions. Then we are left with the following possibilities:

	f	a	w
(i)	u	i	
(ii)	i	u	
(iii)	u		i
(iv)	i		u
(v)		u	i
(vi)		i	u

Possibilities (ii) and (v) are ruled out; *the universal form of* is not identical with *the actuating form of*: The universal form of human being  $x$  – humanity – is identical with the universal form of human being  $y$  – humanity – ,  $x$  being different from  $y$ ; but the actuating form of  $x$  – the soul of  $x$  – is different from the actuating form of  $y$  – the soul of  $y$  –, as Aquinas explicitly states (vide quotation 15).

Possibilities (iv) and (vi) are ruled out; *the universal form of* is not identical with *the essence of*: Aquinas says: 21. «Dato enim quod esset aliquod corpus infinitum secundum magnitudinem, utpote ignis vel aer, non tamen esset infinitum secundum essentiam: quia essentia sua esset terminata ad aliquam speciem per formam, et ad aliquod individuum per materiam» (Summa theologiae, 1,7,3). We take this quotation in its second part to make a statement not only about material objects having infinite magnitude, but about all material objects. Consequently, the essence of human being  $x$  is determined to some individual ( $x$  itself); the universal form of  $x$  is not thus determined, since it is common to several human beings. Thus,  $y$  being another human being, the essence of  $x$  is different from the essence of  $y$ , but the universal form of  $x$  is identical with the universal form of  $y$ . (From quotation 21 we may gather that  $(x)(x')(M(x)\&M(x')\&w(x)=w(x')) \supset x=x'$ ) – «Material objects are identical if their essences are identical» – should be provable in 2TO.)

We are now left with the possibilities (i) and (iii). Whichever of the two we choose, *the universal form of* is identical to *the pure form of*. Hence, if *the universal form of* and *the individual form of* are each iden-

tical to one of the basic aspect-functions, then for every object  $x$  the pure form of  $x$  is identical to the universal form of  $x$ .

That *the universal form of* and *the individual form of* are each identical with one of the basic aspect-functions may appear to be not sufficiently supported by Thomasic evidence. Therefore, consider a different line of argument for the identity of the functions *the pure form of* and *the universal form of*. The word «forma» in its occurrence in quotation 21 means pure form, since it is used to speak about a constituent of essence; hence quotation 21 says in its second part that the essence of a material object is determined by the object's pure form to a certain species, that is, to the universal form of the object; but it is not determined by the object's pure form (alone) to a certain individual – the object itself; this is rather done by (with the help of) the matter of the object; hence the pure form cannot be the individual form of the object, since the individual form of the object (as a constituent of essence) would *alone* determine the essence of the object to a certain individual, since the individual form cannot be common to several individuals. Hence we may very plausibly assert that according to Aquinas the pure form of a material object is its universal form. This assertion for material objects can be generalized: The pure form of any object is its universal form. The generalization is not supported by any direct textual evidence (but there is also no textual evidence against it), but rather recommends itself through its positive effects on the systematization of other Thomasic doctrines, as we shall see.

The pure form of an object is its universal form; hence  $(x)(x')(f(x)=f(x') \supset x=x')$  is not a Thomasic individuation-axiom, since there are different human beings whose universal forms (species) are identical.

IX. The following consideration shows that (on the basis of Thomasic doctrine) *the actuating form of* and *the individual form of* are not identical: there are different objects that have the same actuating form (vide T50); but there are no different objects that have the same individual form: different objects have different individual forms. Hence the only possibility left – under the assumption that allows us to draw up the list (i)–(vi) in the previous section – is item (iii): *the individual form of* is identical with *the essence of*. There is independent evidence for this:

(a) According to quotation 19 and 20 the individual form of a material object is determined by *the universal form of the object and the matter of the object*; on the other hand the essence of a material object is determined by the pure form of the object and the matter of the object (quotation 1 in «Essential Composition»), that is, by *the universal form of the object and the matter of the object*. Hence it is plausible (although not inevitable) to conclude that the individual form of a material object is its essence.

(b) According to quotation 21 the essence of a material object is determined to a certain species and to a certain individual; but this is also true of its individual form: it is determined to a certain individual, and hence also to a certain species. Again it is plausible to conclude that the individual form of a material object is its essence.

As in the case of the identity of pure form and universal form, so also in the case of the identity of individual form and essence the generalization from material objects to all objects is not supported by any direct textual evidence. Unless we count the following: In *Summa theologiae*, 1,3,3, where Aquinas argues for the identity of God and God's essence, he finally concludes in the *responsio*: 22. «Et sic, cum Deus non sit compositus ex materia et forma, ut ostensum est, oportet quod Deus sit sua deitas». The reason given for the identity of God and his divinity is insufficient; but this is not important here. What is important is that the identity of God and his divinity, that is, the identity of God and his individual form, is obviously meant to be the identity of God and his essence. Hence the individual form of God is the essence of God.

In the *contra* of the same article it is concluded, not that God is his divinity, but rather that God is divinity itself: 23. «Deus est ipsa deitas». From this we can infer that the identity of God and divinity itself, that is, the identity of God and his universal form, is also meant to be the identity of God and his essence. Hence the universal *and* the individual form of God is the essence of God. (This is not surprising, since in an immaterial object like God essence and pure form (= universal form) are identical; vide T3.) Consequently the individual form of God is the universal form of God, and some individual form is a universal form, which means that *universal* must not be equated with *non-individual*. (Not every universal form is a non-individual form; nor is every non-individual form a universal form, as will be seen in section XIV.)

We may append one more reason for the identity of essence and individual form (according to Thomasic doctrine): In the second argument for the contrary tenet («God is not his essence») of *Summa theologiae*, 1,3,3, it is argued by strength of similarity: 24. «Praeterea, effectus assimilatur suae causae: quia omne agens agit sibi simile. Sed in rebus creatis non est idem suppositum quod sua natura: non enim idem est homo quod sua humanitas. Ergo nec Deus est idem quod sua deitas». In his refutation Aquinas denies the sufficiency of the similarity for the conclusion. What he does not deny is that a human being *is not* his or her humanity, that is, his or her individual form, and the non-identity of a human being and his or her individual form is clearly meant to be the non-identity of the human being and his or her essence. Aquinas apparently accepts this. Hence the essence of a human being is his or her individual form (*sua humanitas*).

In the same article, however, Aquinas also generally identifies essence and pure form (= universal form), what we have already mentioned in section VIII of «Essential Composition»; then the essence (*natura*) of a human being (*quo homo est homo*) is *humanitas* tout court, as also comes out clearly in the text. (Compare also *Summa contra gentiles*, 1,21.) Now, the essence of a human being cannot both be the individual form and the universal form, because a human being is a material object; consider quotations 19 and 20 which clearly imply that individual and universal form are non-identical in a material object. In order to avoid the inconsistency we ignore Aquinas' statement to the effect of the identity of pure form and essence, which, indeed, contradicts what he says elsewhere. (There is no real inconsistency; Thomas simply uses one word – «essentia», «natura» – in two different meanings: individual essence and universal essence.)

X. The upshot of sections VIII and IX is that we can read  $f(0)$  both as «the pure form of 0» and as «the universal form of 0», and that we can read  $w(0)$  both as «the essence of 0» and as «the individual form of 0». We know then quite well what the pure form and the essence of an object is, since the universal form of an object is its *kind or species*, and the individual form *the species of the object relative to the object (as particularized in the object)*.

The identity of essence and individual form leads to the acceptance of another Thomasic individuation-axiom: I5:  $(x)(x')(w(x)=w(x') \supset x=x')$  (*Objects having the same essence, i.e. individual form, are identical*). By I5 and T3 we obtain T53:  $(x)(x')(\text{nonM}(x) \& \text{nonM}(x') \& f(x)=f(x') \supset x=x')$  (*Immaterial objects that have the same pure form are identical*). *Proof*: assume  $\text{nonM}(x) \& \text{nonM}(x') \& f(x)=f(x')$ , hence by D3 and T3  $w(x)=f(x) \& w(x')=f(x')$ , hence  $w(x)=w(x')$ , hence by I5  $x=x'$ . According to T53 there are no two immaterial objects of the same species; there are as many species of immaterial objects as there are immaterial objects. This agrees with Thomasic doctrine: 25. «Secunda differentia <inter essentiam substantiae compositae et essentiam substantiae simplicis> est quia essentiae rerum compositarum ex eo quod recipiuntur in materia designata multiplicantur secundum divisionem eius, unde contingit quod aliqua sint idem specie et diversa numero. Sed cum essentia simplicis non sit recepta in materia, non potest ibi esse talis multiplicatio; et ideo oportet ut non inveniatur in illis substantiis plura individua eiusdem speciei, sed quotquot sunt ibi individua, tot sunt species, ut Avicenna expresse dicit» (*De ente et essentia*, 4,25). In the *Summa theologiae*, however, Aquinas excludes human souls: there are many human souls of the same species, albeit there are not several angels of the same species: 26. «licet anima intellectiva non habeat materiam ex qua sit, sicut nec angelus, tamen est forma materiae alicuius; quod angelo non convenit. Et ideo secundum

divisionem materiae sunt multae animae unius speciei: multi autem angeli unius speciei omnino esse non possunt» (Summa theologiae, 1,76,2). What forces Aquinas to exclude human souls is the following opposing argument: 27. «[1] Nulla enim substantia immaterialis multiplicatur secundum numerum in una specie. [2] Anima autem humana est substantia immaterialis ... [3] Non ergo sunt multae in una specie. [4] Sed omnes homines sunt unius speciei. [5] Est ergo unus intellectus omnium hominum» (Summa theologiae, 1,76,2). Aquinas cannot accept [5]; his way out is to deny [1] (vide quotation 26), thus contradicting what he says in one place of *De ente et essentia*. (In another place of *De ente et essentia* he states the same as in the *Summa theologiae*: «Et ideo in talibus substantiis [substantiis creatis intellectualibus] non invenitur multitudo individuorum in una specie, ut dictum est, nisi in anima humana propter corpus cui unitur»; *De ente et essentia*, 5,31.) But to deny [1] is clearly not the most reasonable way out for Aquinas. How does «There is one intellect for all human beings»:[5] follow from «All human beings are of the same species»:[4] and «Each human soul is the only one in its species»:[3]? Only by supposing that «All human beings are of the same species» implies «Every human soul belongs to the same species» – an implication that is not beyond question.

XI. Essence, pure form and actuating form of an object are *formal* aspects of it. Of the essence and pure form of an object we have a fairly precise understanding; our understanding of its actuating form depends on the understanding of its being. What is the being (or *esse*) of an object?

It is another formal aspect of it. According to Aristotelian-Thomasic doctrine every universal form F (substantial or not) that applies to an object x is individualized in x: the F of x; *existence* is a universal form that applies to every object (remember that «object» means *existing object*); hence for every object x existence is individualized in x: *the existence of x*. Like the whiteness of x is that by which x, being white, is white, so the existence of x is that by which x exists. But the being of x is that by which x exists: 28. «Unumquodque est per suum esse» (Summa contra gentiles, 1,22). Hence we may safely conclude that the being of x is its existence.

Like the whiteness of x is different from the whiteness of y, if x and y are different white objects, so the existence of x is different from the existence of y, if x and y are different objects. Hence it is clear why I4 is a Thomasic individuation-axiom, the *esse* of any object being its existence.

I4 and I5 in their intended interpretation can be regarded as consequences of a more general principle, which we state informally as follows: (P) If F is a universal form (substantial or not) that applies to object x and F' a universal form that applies to object y and *the F of x* (F



relative to  $x$ ) is *the  $F'$  of  $y$*  ( $F'$  relative to  $y$ ), then  $x$  is identical to  $y$ . Then *ad I4*: assume  $x$  is an object and  $y$  is an object, hence existence is a universal form that applies to both; assume the being of  $x$  is the being of  $y$ , hence the existence of  $x$  is the existence of  $y$ ; hence by (P)  $x$  is identical to  $y$ . And *ad I5*: assume  $x$  is an object and  $y$  is an object; assume the essence of  $x$  is the essence of  $y$ ; hence the individual (substantial) form of  $x$  is the individual (substantial) form of  $y$ ; the species of  $x$  is a universal form  $F$  that applies to  $x$ , and the species of  $y$  is a universal form  $F'$  that applies to  $y$ ; the individual form of  $x$  is the species of  $x$  relative to  $x$ ; the individual form of  $y$  is the species of  $y$  relative to  $y$ ; hence the species of  $y$  relative to  $y$  is the species of  $x$  relative to  $x$ ; hence by (P)  $x$  is identical to  $y$ .

XII. The actuating form of an object is determined by its pure form and its being, that is, by its species and its existence. In what manner? – We can prove  $\forall x \forall x' (a(x)=a(x') \& \text{non } f(x)=f(x') \& \text{non } s(x)=s(x'))$  if we add the following axiom: I6:  $(x)(x')(M(x) \& \text{non } M(x') \supset \text{non } f(x)=f(x'))$  (*Material and immaterial objects are not of the same species*). I6 can easily be brought into the form of an individuation-axiom, and Aquinas would have agreed to it. I6 allows «Immaterial objects are singly in their species» («There are no immaterial objects beside immaterial object  $x$  that are of the species of  $x$ , and there are no material objects that are of the species of  $x$ ») to be deduced from «Immaterial objects that are of the same species are identical» (T53): T54:  $(x)(\text{non } M(x) \supset (x')(f(x')=f(x) \supset x'=x))$ . *Proof*: assume  $\text{non } M(x)$ ,  $f(x')=f(x)$ ; hence  $\text{non } M(x')$  by I6, hence by T53  $x'=x$ . T55:  $\forall x \forall x' (a(x)=a(x') \& \text{non } f(x)=f(x') \& \text{non } s(x)=s(x'))$ . *Proof*:  $\forall x H(x)$  by C3, hence by C2  $\forall x (H(x) \& \forall x' (I(x') \& x'=a(x)))$ , hence by C1 and D6  $\forall x \forall x' (M(x) \& \text{non } M(x') \& x'=a(x))$ , hence by D3 and T1  $\forall x \forall x' (M(x) \& \text{non } M(x') \& x'=a(x') \& x'=a(x))$ , hence by I4 and I6  $\forall x \forall x' (a(x)=a(x') \& \text{non } f(x)=f(x') \& \text{non } s(x)=s(x'))$ . T55 shows that the actuating form of an object is determined in a different way by its species and its existence than is its individual form by its species and its matter. In contrast to T55 we have by I5 T56:  $(x)(x')(w(x)=w(x') \supset f(x)=f(x') \& m(x)=m(x'))$ . However, the principle for the actuating form of an object that is analogous to T56 is approximated to, since we have T57:  $(x)(x')(M(x) \& M(x') \& a(x)=a(x') \supset f(x)=f(x') \& s(x)=s(x'))$  by I3, and T58:  $(x)(x')(\text{non } M(x) \& \text{non } M(x') \& a(x)=a(x') \supset f(x)=f(x') \& s(x)=s(x'))$  by T52.

We know a considerable amount about the behavior of the actuating form of an object in relation to other object-aspects. But it is doubtful whether the actuating form in itself can be satisfactorily described in ontological terminology that is familiar and (relatively) clear to us. We know that the actuating form of a human being is his or her soul, that the immaterial objects are the subsistent actuating forms. But what has become clearer by this? What is a human soul? What is an immaterial sub-

stance? To the latter question Aquinas would answer «God, or an angel, or a human soul». It seems we must rest content with this. (The non-subsistent actuating forms are: the souls of animals and plants, and the actuating forms of inanimate material objects.)

Vaguely, the actuating form of an object is that aspect of it that makes it exist (that is, subsist) as an object of a certain species. For example, the actuating form of this horse is what makes it exist as a horse. *Vivere est esse viventis*. Hence the actuating form of this horse is what makes it live as a horse. But what makes the horse live as a horse is also the horse's soul; for the soul is the principle of life: 29. «Anima dicitur esse primum principium vitae in his quae apud nos vivunt; *animata* enim *viventia* dicimus, res vero *inanimatas* vita carentes» (Summa theologiae, 1,75,1). Thus, the actuating form of the horse is its soul. The line of thinking leading to the identification of soul and actuating form in living material objects is apparent.

*XIII.* The matter of an object is (leaving aside the empty aspect) the one non-formal aspect of it. There are two difficulties concerning it: The matter of an object is what it materially consists of. When? Living material objects do not materially consist of the same at each instant of their existence. Let *x* be a human being. Which instant of the existence of *x* shall we select, such that what *x* materially consists of at that instant is *the* matter of *x*? This is the first difficulty. The second difficulty is, what does a material object (at a given time) materially consist of? There are many levels of decomposition with respect to which an answer can be given to this question. We may say that human being *x* materially consists of this head and trunk, these arms and legs; or of this flesh and bones; or of these cells; or of these protein-molecules; etc. Which level of decomposition shall we select such that what *x* materially consists of at that level is *what* *x* materially consists of (at the given time)? If there were a clearly defined first or ultimate level of decomposition we could either say, what *x* materially consists of at the first level of decomposition is *what* *x* materially consists of, or, what *x* materially consists of at the ultimate level of decomposition is *what* *x* materially consists of. But there is no clearly defined first or ultimate level of decomposition.

The second difficulty may be resolved as follows: The matter of *x* (at a given time), that what *x* materially consists of, is not the collection of the material parts of *x* at a certain level of decomposition (is not what *x* materially consists of *at that level of decomposition*); it cannot be reached at any level of decomposition. There is no level of decomposition such that the matter of *x* is the collection of the material parts of *x* at that level of decomposition; *but* for every level of decomposition the matter of *x* is also the matter of the collection of the material parts of *x* at that level of decomposition. Thus, the matter of *x* is a rather abstract entity, in

a different way no less abstract than the species of  $x$ . Nothing else should be expected in view of axiom C8:  $\text{non}\forall x\text{Mat}(x)$ .

Concerning the first difficulty there are relevant passages in the *Summa contra gentiles*, 4,81. Aquinas is confronted with the problem with which matter the soul is reunited at the resurrection to make up the resurrected human being. This problem arises, because at different times of life different matter was in the human being. He rejects the idea that the soul is reunited with the totality of matter that was in the human being while alive; rather the soul is reunited with a sufficient part of this totality. Which part? He suggests, that part which was existing in a perfect manner under the species of humanity. Following Aquinas' suggestion we select an instant in the prime of life of  $x$  and determine that *the* matter of  $x$  is what  $x$  materially consists of at that instant.

XIV. A synopsis of Aquinas' theory of forms concludes this paper. The *universal forms* are the entities designated by abstract nominalizations («beautiful» – «*beauty*», «human» – «*humanity*», «just» – «*justice*», «man» – «*manhood*», «exist» – «*existence*»). Some universal forms are *substantial forms*, but most are not; universal substantial forms are (exemplified) *species or kinds* (*humanity, divinity, caninity*). [0] *Every substance has (falls under) exactly one universal substantial form: its universal (substantial) form (its species, its pure (substantial) form)*. A special universal form is *existence*. Every universal form is individuated in the substance to which it applies. [1] *There is at most one individuation of a universal form  $F$  in a substance  $x$* . [2] *If  $F$  applies to  $x$ , then there is an individuation of  $F$  in  $x$ : the individuation of  $F$  in  $x$  ( $F$  relative to  $x$ , the  $F$  of  $x$ )*. And vice versa: [3] *If there is an individuation of  $F$  in  $x$ , then  $F$  applies to  $x$* . We can define: [4]  *$f$  is an individual (alternatively: individual substantial) form iff there is a universal (alternatively: universal substantial) form  $F$  and a substance  $x$  such that  $f$  is an individuation of  $F$  in  $x$* . Every substance has exactly one individual substantial form, its individual substantial form or *its essence* (the essences are the individual substantial forms): [5] *For every substance  $x$ : there is exactly one individual substantial form  $f$  such that there is a universal substantial form  $F$  and  $f$  is an individuation of  $F$  in  $x$* . Proof: Let  $x$  be a substance; the species of  $x$  is a universal substantial form (by [0]); the species of  $x$  applies to  $x$  (by [0]); hence (by [2]) there is an individuation of the species of  $x$  in  $x$ , hence (by [1]) *the* individuation of the species of  $x$  in  $x$  is an individuation of the species of  $x$  in  $x$ ; hence (by [4]) the individuation of the species of  $x$  in  $x$  is an individual substantial form, and there is a universal substantial form  $F$  (the species of  $x$ ) and the individuation of the species of  $x$  in  $x$  is an individuation of  $F$  in  $x$ ; let  $g$  be an individual substantial form such that there is a universal substantial form  $F$  and  $g$  is an individuation of  $F$  in  $x$ ; hence (by [3])  $F$  applies to  $x$ , hence

F=the species of x (by [0]); hence g is an individuation of the species of x in x; the species of x is a universal form, x is a substance; hence (by [1]) g=the individuation of the species of x in x – this completes the proof. The proof also shows that the essence of x is the individuation of the species of x in x. In material substances the individuation of the species of x in x is different from the species of x. But in immaterial substances the individuation of the species of x in x is the species of x itself. Hence, if there is an immaterial substance, then some universal (substantial) form, namely its species, is an individual (substantial) form; and there are immaterial substances, says Aquinas.

Concerning individual existence the following two theorems hold: [6] *For every substance x: the existence of x (s(x): the being of x) is an individual form.* Proof: Assume x is a substance; existence is a universal form that applies to x; hence (by [2]) there is an individuation of existence in x; hence (by [1]) the individuation of existence in x is an individuation of existence in x; hence the individuation of existence in x, that is, the existence of x is an individual form (by [4]). [7] *The existence of God is an individual substantial form.* Proof: The existence of God is the divinity of God (s(g)=w(g)); the divinity of God is an individual substantial form (since it is the essence of God); hence the existence of God is an individual substantial form.

It is in the spirit of Aquinas to postulate principle (P) in section XI.

An *actuating substantial form* is the composite of the species of a substance – a universal substantial form – and the existence of that substance – an individual form. Every substance has exactly one actuating substantial form, since (trivially) there is exactly one actuating substantial form which is the composite of its species and its existence. – The *subsisting* actuating substantial forms are the immaterial substances; but no individual or universal form is a substance (subsists) – with one exception: *divinity* (=the species of God=the individuation of the species of God in God=the divinity of God[f(g)=w(g)]=the existence of God[w(g)=s(g)]=God[s(g)=g]), which is both a subsisting universal form and a subsisting individual form. Since no individual or universal form, except divinity, subsists, every subsisting actuating form that is not divinity (=the actuating (substantial) form of God, since f(g)=a(g)) is neither a universal nor an individual form. (It is not an individual form in the sense defined by [4], although, of course, it is an individual which is a form.) Hence there are non-individual forms that are not universal forms.

Divinity, and no other entity, is at once a substance and a form that is universal, individual, and actuating; it is, we may say, a form in the original Platonic sense. As far as God and Divinity is concerned, Aquinas adheres to Platonism. (It is a distortion to see him as a pure Aristotelian.) As the Beautiful in itself, subsistent Beauty, is the object of intense emo

tion for Plato (what is apparent in the climax of Socrates' report of Diotima's speech in the *Symposium*), so subsistent Divinity – God – is for Aquinas: *Adoro te devote, latens veritas...*

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