

Chapter Four

FINAL CAUSALITY IN NATURE

I.- IS KNOWLEDGE OF THE ESSENCE OF FINAL CAUSALITY?

We have already quoted⁽¹⁾ L. Von Bertalanffy as saying:

Those who followed long custom and called this organisation of life (system-forming character of vital phenomena) 'purposive' were wont to ask what end or function an organ has. In their notion of purpose, however, they seemed to conceive of a will and an aiming at a goal, and this is a way of thinking of which the natural scientist is rightly out of sympathy.

Despite evidence to the contrary, many modern scientists would prefer to deny purposive activity in nature and maintain a mechanistic interpretation rather than to acknowledge an inherent will or intelligence in natural beings. And we could sympathize with them if purpose in nature meant that a rock or geranium is capable of knowledge and deliberation. Still, as we have seen, there are those who are willing to go to that extreme and postulate consciousness in plants rather than contradict the evidence for finality.

The difficulty, I think, is quite clear. We are

1) See above, p. 80.

faced with an antinomy, at least an apparent one. If we admit that nature does not possess intelligence, it seems we must deny final causality in her operations; if we hold for finality, it seems we must attribute intelligence to her. Yet the facts are contrary to both conclusions.

This difficulty is not a new one, nor is it insoluble. Aristotle both recognized it and proposed an explanation. "Excludit (Philosophus) tertium ex quo aliquis opinari potest quod natura non agat propter aliquid, quia non deliberat." (2)

Aristotle's solution has been interpreted to mean that there is indeed activity for an end in nature, but that activity is to be attributed properly to a Divine Ordering Cause who directs natural beings to their respective ends, and not to the natural agents themselves. Suarez notwithstanding, this is not Aristotle's answer to the difficulty. His solution is a simple denial that deliberative knowledge is necessary in order that a natural agent may act for an end.

It is absurd to suppose that purpose is not present because we do not observe the agent deliberating. Art does not deliberate. If the ship-building art were in the wood, it would produce

2) In II Phys., lect. 14, n. 8.

the same results by nature. If, therefore, purpose is present in art, it is present also in nature. (3)

A full comprehension of this reply requires an understanding of the Aristotelian notion of final causality, and its peculiar application to nature.

A- FINAL CAUSALITY - METAPHORICAL MOTION -

The end is essentially good, and possesses a twofold aspect: it is first in the order of intention, and last in the order of execution. Existing in intentional "esse", the end or good initiates the causality of the other causes, and these will have as their term or result the physical "esse" of the end. Otherwise stated, the efficient cause (the will in voluntary actions) is the first cause in the execution of the act which terminates in what is desired, but it is the intention of the end that causes the efficient cause to exercise its efficiency. The end is both the beginning and the term, although in two different orders. (4)

3) Phys. II, ch. 8, 198b26-30.

4) "Est igitur efficiens causa finis, finis autem causa efficientis. Efficiens est causa finis quantum ad esse quidem, quia movendo perducit efficiens ad hoc, quod sit finis. Finis autem est causa efficientis non quantum ad esse, sed quantum ad rationem causalitatis. Nam efficiens est causa inquantum agit; non autem agit nisi causa finis." -- In V Metaph., lect. 2, n. 775; see also Q.S. de Pot., q. 5, a.1; De Principiis Naturae (ed. Friburg), ch. 5.

John of St. Thomas explains it thus:

Agens non operatur nisi ut determinatum ad aliquid, quod operatur, alias a casu et per accidens operabitur. Determinatur autem a fine, qui est terminus, in quem tendit agens. Ergo, motio finis ita debet respicere actiones et effectus ut rem causandam, quod etiam respiciet tamquam mobile, quod determinat, ut operatur. (5)

The particular aspect of the end as the term of the action was sufficiently discussed when demonstrating that nature acts for an end. We are now interested in the end as the cause initiating the action. How does the end cause? Precisely what is final causality, or "motion of the end", as John of St. Thomas refers to it?

It may strike us as paradoxical that in explaining final causality, we must first deny that it is any motion at all, except metaphorically speaking. (6) Because the efficient cause is most familiar to us, and its causality consists in action, we are prone to identify causality with action. This tendency is made use of to elucidate the notion of "causality from the end", which we say is something-like-a-motion, a metaphorical motion. In truth,

5) J.S.T., Curs. phil., T. II, p. 276b-277a.

6) "The active power is a 'cause' in the sense of that from which the process originates; but the end, for the sake of which it takes place, is not 'active'. (That is why health is not 'active', except metaphorically.)" -- De Gen. et Cor., I, ch. 7, 324b14-16. Cf. J.S.T., op. cit., pp. 276-277.

there is no motion involved; the end causes simply by attracting the appetitive faculty. "Sicut influere causae efficientis est agere, ita influere causae finalis est appeti et desiderari." (7) The end influences the appetent to desire it by, as it were, "breathing" (8) its goodness upon it without any real action being entailed.

John of St. Thomas has summed up well the doctrine of final causality in this single statement: "Metaphorica motio, qua finis dicitur causare secundum veritatem, est primus amor finis ut passive pendens ab appeti-

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- 7) Q.D. de Ver., q. 22, a. 2; "Dicendum quod omne agens agit propter finem aliquem... Finis autem est bonum desideratum et amatum unicuique. Unde manifestum est quod omne agens, quodcumque sit, agit quamcumque actionem ex aliquo amore." -- Ia, IIae, q. 28, a. 6. Cf. J.S.T., op. cit., p. 278.
- 8) The subtle nature of final causality presents terminological difficulties. It is not a true motion, yet it causes real motion, so we say it is a metaphorical motion. But it is very hard to find the exact terms to describe the causality of the end more precisely. The Schoolmen felt this difficulty, and at times had recourse to metaphors, such as the verbs 'to weigh' (ponderare); 'to breathe' (spirare). This is shown also by the number of nouns they employed, some of the more common being 'love' (amor), immutation, proportion, inclination, 'impulsus', 'pondus', 'coaptatio', 'impressio'. These terms are not in every way synonymous. Some, like immutation, are used with exclusive reference to the intellectual appetite. However, as regards our purpose, they may be employed interchangeably for the post part. Cf. Ia IIae, q. 26-28; Contra Gentiles, IV, ch. 19; J.S.T., Curs. theol., T. IV, d. XII, a.7, nn. 1-14.

billi, non ut active elicitus a voluntate." (9)

The goodness of the end in prospect is given intentional existence by the intellect, and is then presented to the will. A consequent immutation is brought about in the will, not by a transitive motion, but by dint of an attraction. By virtue of this immutation the will is inclined to the good and elicits an act of love of the good. (10) The goodness of the end 'weighs', so to speak, in the will, thus attracting it to elicit an act of love. As a point of fact, the causality of the end is identical in re with this act of love; nonetheless we distinguish two formalities in it. The elicited act

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- 9) J.S.T., Curs. phil., T. II, p. 278a. It is well to remark that when treating of the will and of its act of 'love', we are doing so for the sake of showing that there is appetite, and so, finality in nature. We are thus making use of something we know well, namely, our own actions for an end, to help us to understand something obscure, the purposive activity of natural agents. We must be on our guard, however, to keep well apart the two levels of appetite, the intellectual and the natural.
- 10) "Appetibile enim movet appetitum, faciens se quodammodo in eius intentione; et appetitus tendit in appetibile realiter consequendum, ut sit ibi finis motus, ubi fuit principium. Prima ergo immutatio appetitus ab appetibili vocatur amor, qui nihil est aliud quam complacentia appetibilis; et ex hac complacentia sequitur motus in appetibile... Sic ergo, cum amor consistat in quadam immutatione appetitus appetibili, manifestum est quod amor est passio." -- Ia IIae, q. 26, a. 2; cf. J.S.T. (op. cit. pp. 278-283) for the presence of final causality and its first effect in the one physical act of love.

of the will itself is the first effect of the final cause; but the immutation of the will whereby it is inclined to the good is final causality itself, and we call it a metaphorical motion. Again, the will's act of love is physically one and is called final causality inasmuch as it is passively dependent on the drawing power of the appetible object; it is called the first effect of the final cause inasmuch as it is an elicited act of the will. It is in being loved and desired by the will that the end causes; it exerts an attraction upon the will by virtue of its own goodness, without any transitive action.

This first and sketchy presentation of final causality limits the causality of the end and its first effect to the love of the end or good. No mention was made of intellect. For, though an intellectual manifestation of the good is obviously a "conditio sine qua non" of final causality, it is nevertheless not of its essence. Therefore, if we can show that the contribution which the intellect makes can be supplied by something else, the fact that natural agents lack intelligence will not in itself do away with final causality in their actions.

B- ROLE OF MIND -

What reason does is manifest the goodness of

the prospective desideratum.(11) No agent acts in general but always for a particular term. Yet there must be something that determines it to act for this and for no other. That something is the goodness which this term will bestow on the agent, and which 'weighs' on the appetite inducing it to desire and to take up the proper means to obtain the end. But only the mind knows the universal reason of goodness in comparison with which particular goods can be evaluated. Only it can judge of the suitability of the tentative end for the agent, and of the relationship between the end and the means to secure it.(12) Knowledge of this sort requires comparison and reflection, and this only an immaterial cognitive faculty can do. Reason pronounces judgment on the good and presents it to the will with the result that, if the attractiveness of the good object is strong enough, it will cause the will to elicit an act of love of it; if it is not so

11) Cf. Cajetan, Comment. In Iam IIae, q. 1, a.1, nn. 8-11; J.S.T., Curs. phil., T. II, pp. 270a-276a.

12) "Dicendum quod omne quod consequitur aliquem finem, oportet quod fuerit determinatum aliquo modo ad finem illum; alias non magis in hunc finem quam in alium perveniret. Illa autem determinatio oportet quod proveniat ex intentione finis... Intendere autem finis impossibile est, nisi cognoscatur finis sub ratione finem, et proportio eorum quae sunt ad finem in finem ipsum." -- In III Sent., d. 27, q. 1, a.2; cf. Ia IIae, q. 1, a.2; J.S.T., Cursus Theologicus, T. V, (Ed. Vives) In Iam IIae, Disp. I, a.2, nn. 22-27.

attractive the will will reject it. (13) The role of mind in final causality then is to bring into light the suitability of the good object.

C- ITS FUNCTION SUPPLIED BY NATURE -

Now in irrational beings this particular function is obviated (in the sense that it is supplied) by their very nature. St. Thomas brings this to our attention very pointedly in commenting on Aristotle's reply to the objection we are considering. It is there that the Angelic Doctor gives a second definition of nature complementary to, indeed the precise reason of, the one already presented.

In nullo enim alio natura ab arte videtur differere, nisi quia natura est principium intrinsecum, et ars est principium extrinsecum. Si enim ars factiva navis esset intrinseca ligno, facta fuisset navis a natura, sicut modo fit ab arte. Et hoc maxime manifestum est in arte quae est in eo quod movetur, licet per accidens, sicut de medico qui medicatur se ipsum: huic arti enim maxime assimilatur natura. Unde patet quod natura nihil est aliud quam ratio cuiusdam artis, scilicet divinae, indita rebus, qua ipsae res moventur ad finem determinatum: sicut si

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- 13) "Si autem consideretur motus voluntatis ex parte objecti determinantis actum voluntatis ad hoc vel illud volendum, considerandum est, quod objectum movens voluntatem est bonum conveniens apprehensum; unde si aliquod bonum proponatur quod apprehendatur in ratione boni, non autem in ratione convenientis, non movebit voluntatem." -- Q.D. de Malo, q. 6, a.un.

artifex factor navis posset lignis tribuere,
quod ex se ipsis moverentur ad navis formam
inducendam. (14)

In our analysis of the definition of nature in Chap. I, we observed that nature is said both of the active principle, which is the form, and of the passive principle, which is matter. Consequently, we must also say that the active principle, as well as the passive principle, is a "ratio indita", a determination from the Divine Intelligence in virtue of which each principle is intrinsically and positively ordered to a definite end. (15) By their nature irrational agents are determined to one end rather than to another, love one object

14) In II Phys., lect. 14, n. 8 (I have underlined that portion which is regarded as a second definition of nature.) "Et ipsa natura uniuscuiusque est quaedam inclinatio indita ei primo movente, ordinans ipsam in debitum finem. Et ex hoc patet, quod res naturales agunt propter finem, licet finem non cognoscant, quia a primo intelligente assequuntur inclinationem in finem." -- In XII Metaph., lect. 12, n. 2634.

15) "Sciendum est enim quod omne quod appetit aliquid, vel cognoscit ipsum et se ordinat in illud; vel tendit in ipsum ex ordinatione et directione alicuius cognoscentis, sicut sagitta tendit in determinatum signum ex directione et ordinatione sagittantis. Nihil est igitur aliud appetitus naturalis quam ordinatio aliquorum secundum propriam naturam in suum finem. Non solum autem aliquid ens in actu per virtutem activam ordinatur in suum finem, sed etiam materia secundum quod est in potentia; nam forma est finis materiae. Nihil igitur est aliud materiam appetere formam quam eam ordinari ad formam, ut potentia ad actum." -- In I Phys., lect. 15, n. 8; cf. Ia IIae, q. 6, a.1; Q.D. de Pot., q. 4, a.1, ad 2.

more than another. They do not know why the particular end which they love and for which they act is good for them; they simply tend toward it out of an innate love. It is the Author of their nature who determines what is good for them, and gives them, as part of their being, a tendency for a particular end.

We have somewhat of a parallel to this in the education of children which is essentially a process of acquiring habits. Before the child is able to understand the reasons of things, his parents simply tell him what to do, inducing him to repeat the action until it becomes habitual. Only the parents know the reason for the action, the good it will confer to their child. The habit once acquired, the child pursues good instinctively in virtue of the mind of his parents. It is not without reason that we refer to a habit as a second nature.

These reflections answer the objection that a want of mind prevents activity for an end in nature. The peculiar function exercised by the reason in final causality is rendered unnecessary in natural operations since nature is a participation of the Divine Intellect. The Author of nature has determined for natural things what is good for them and directs them to that prescribed end by giving them, as their nature, a tendency for it. The

natural agent does not need to know the reason why this object is suitable to it, nor the relationship between the end and the means. These are necessary when an agent has to determine itself to some one goal in order that it may act. But the natural agent is determined by its nature, in which are given the inclination and the proper means to a definite end. Yet it remains true that knowledge of the 'ratio' of the end is necessary for final causality, although in the instance of natural operations this knowledge is not in the agent who operates, but in the Author of the nature of that agent. (16)

II.- INFLUENCE OF FINAL CAUSE ON NATURAL AGENT

A - ANALYSIS OF FINAL CAUSALITY -

Another difficulty immediately presents itself. Granted that there is activity for an end in nature; granted that the natural agent does not need intellectual knowledge in order to act purposively, owing to the fact that its nature is a sharing in the Divine Intelligence; still, where is the influence of the final cause in such cases? How does the end exert a real causality on the natural being,

16) Cf. Ia IIae, q. 27, a. 2, ad 3; Q.D. de Ver., q. 22, a. 1, ad 2.

drawing that being to itself? That dollar on the ground before me really attracts my will, causing it to issue a command to my bodily members, resulting in my stooping to pick it up. Supposing that it is a good for fire, does a high place, for example, draw the fire to itself? If the fire tends toward a high place through an innate ordination, or determination, it seems that if the influence of the final cause is anywhere, it should be in the one who gave fire its nature. And indeed, St. Thomas seems to agree here, since he asserts:

Quod autem nullam notitiam finis habet, etsi in eo sit principium actionis vel motus; non tamen eius quod est agere vel moveri propter finem est principium in ipso, sed in alio, a quo ei imprimitur principium suae motionis in finem. Unde huiusmodi non dicuntur movere seipsa, sed ab aliis moveri. Quae vero habent notitiam finis, dicuntur seipsa movere: quia in eis est principium non solum ut agent, sed etiam ut agent propter finem. (17)

A satisfying solution to this difficulty requires a further examination of final causality, although we may concede immediately that the causality of the end, as it is found in nature, will not have the full influence it exerts in intellectual agents. Commenting on this passage of St. Thomas, Cajetan keynotes this for us in distinguishing a double sort of principle by which agents operate

17) Ia IIae, q. 6, a. 1.

purposively:

... Scito quod hoc quod est agere propter finem, potest habere principium duplicis ordinis: alterum scilicet proprii ordinis; alterum subordinati. Proprii quidem ordinis principium est quod propria virtute hoc facit: subordinati vero, quod superioris virtutis participatione solum hoc facit. Et quoniam agere propter finem collationem quandam eius quod est ad finem, ad ipsum finem, manifeste importat; conferri autem in finem absque cognitione, etsi fingendi datur licentia, intelligi nequit: oportet ut de ratione principii propria virtute activi propter finem, sit cognitio. Ac per hoc, principium propria virtute agens propter finem, constat necessario ex gradu cognoscitivo. Et consequenter si quid non cognoscitivum agit propter finem, etsi habeat principium agendi propter finem, non habet principium nisi subordinati ordinis, quod scilicet ex hoc est impressio quaedam a cognoscitivo, principiat propter finem. Et hoc modo naturalia agunt propter finem. (18)

Since the causality of the final cause lies in the attraction of its goodness, the agent is properly finalized only when he can see its attractiveness by apprehending it. But not any apprehension will do. The attractiveness of the good is its suitability for the agent, and its suitability with respect to the means. (19) To know the suitability of a good thing in this way, means knowing it through an intellectual apprehension, because to know it thus entails comparison and reflection. As a consequence, final causality is to be found properly only

18) Cajetan, Comment. In Iam IIae, q. 6, a. 1, n. 5.

19) Cf. Ia IIae, q. 6, a. 2; Q.D. de Malo, q. 6, a. un.

in intelligent agents, whose efficient principle of operation is an intellectual appetite, a will. Inasmuch as natural agents lack intellectual knowledge and depend on their Author to determine what object is fitting for them, and thus to supply what the mind contributes to telic activity, they must be said to act for an end through a subordinate power, the 'impressio' they receive from that Author. That 'impressio' is the key word in this passage, that the consequent remarks will bring out.

Our next step should be predictable. We must go to the root of final causality as found in voluntary agents, and then see if this is had in natural agents. This is but the continued use of our principle of proceeding from what we know best to what is less obvious to us. We know from our own actions what it means to be attracted by some good, to desire it, and to move to secure it. If we wish to know further whether or not irrational beings are drawn by some end in a proportionate way, it is reasonable first to find what is essential to final causality by an analysis of our own purposive actions, and then to see if what we have found is present in natural activity.

Unlike the cognitive faculties which bring their objects to themselves in intentional existence, the will is drawn by its object, and tends toward a union with it

in its physical 'esse'.⁽²⁰⁾ The will is a faculty that tends to some object as to a term suitable and proportioned to it. Now since every relation of fittingness or proportion ought to be reciprocal, the will itself should be proportioned (coaptari) to the object, that is, it should love it.⁽²¹⁾ It so happens that the intellectual appetite is an indifferent and determinable faculty. Though when it acts it must always be for some good, nonetheless the will of itself is indifferent to any particular good, and must be determined to this good rather than that.⁽²²⁾ And because it is indifferent, no finite

20) "Nos enim cognitionem intellectivam a rebus exterioribus accipimus; per voluntatem vero nostram in aliquid exterius tendimus tamquam in finem. Et ideo intelligere nostrum est secundum motum a rebus in animam; velle vero secundum motum ab anima ad res... Est ergo tam in nobis quam in Deo circulatio quaedam in operibus intellectus et voluntatis; nam voluntas redit in id a quo fuit principium intelligendi; sed in nobis concluditur circulus ad id quod est extra, dum bonum exterius movet intellectum nostrum, et intellectus movet voluntatem, et voluntas tendit per appetitum et amorem in exterius bonum; sed in Deo..." --

Q.D. de Pot., q. 9, a.9; cf. Q.D. de Malo, q. 6, a.un, ad 13; Ia IIae, q. 28, a. 1c and ad 2.

21) Cf. J.S.T., Curs. theol., T. IV, In Iam, Disp. XII, a.7, nn. 1-14; for this entire question of the influence of the final cause on the intellectual appetite.

22) "... Forma intellecta est universalis sub qua multa possunt comprehendi; unde cum actus sint in singularibus, in quibus nullum est quod adaequet potentiam universalis, remanet inclinatio voluntatis indeterminate se habens ad multa... Cum omnia moveat (Deus) secundum rationem mobilium, ut levia sursum et gravia deorsum, etiam voluntatem movet secundum eius conditionem, non ut ex necessitate, sed ut indeterminate se habentem ad multa." -- Q.D. de Malo, q. 6, a. un.

good can ever necessitate the will. The will must freely determine itself, and this it does under the attractive force of an apprehended object, which causes the will to elicit an act of love of it.

The good as apprehended, exists only in the apprehension, and as such will never determine the intellectual appetite to the exclusion of other possible goods. It must come to be in some manner within the will itself. (23) It is therefore necessary to place in the appetite a determinate proportion or suitability to that object, which, on the one hand, will be to the thing existing in 'esse physico' what the intelligible species is to the concrete material substance; and on the other hand, it will be to the will what the intelligible species is to the intellect. And it is this proportion, 'coaptatio', to a particular term that determines the will ad unum, inclines it toward that term, and not to another.

At the same time this proportion is a special act of the will, freely elicited by it. (24) Previous to

23) "Sic igitur quod amatur non solum est in intellectu amantis, sed etiam in voluntate ipsum: aliter tamen et aliter. In intellectu enim est secundum similitudinem suae speciei: in voluntate autem amantis est sicut terminus motus in principio motivo proportionato per convenientiam et proportionem quam habet ad ipsum." -- Contra Gentiles, IV, ch. 19.

24) Cf. Q.D. de Ver., q. 22, a.6; and J.S.T., op. cit., n. 5.

being proportioned, and thus inclined to one, the will is simply in potency and indeterminate with respect to many objects. To pass from indetermination to determination, is to pass 'ex actu primo ad actum secundum', from mere power to act to actual operation. But as this operation is in the order of efficiency, the volitive faculty must be determined by an efficient principle. This cannot be the apprehended good, because the good as apprehended is in the order of extrinsic formal cause. It is, in fact, the will itself, which has dominion over its acts, and is the first principle in the order of efficient cause.⁽²⁵⁾ This means that the will itself is responsible for its own determination, that is, the 'coaptatio' of the will to a particular object is an act proceeding from the will as freely elicited by it. In other words, it is the love itself of the intellectual appetite for the good object or end.

To recapitulate: the end causes the will to elicit an act of love of it, not as the end exists in the

25) "Si ergo consideremus motum potentiarum animae ex parte objecti specificantis actum, primum principium motionis est ex intellectu: hoc enim modo bonum intellectum movet etiam ipsam voluntatem. Si autem consideremus motus potentiarum animae ex parte exercitii actus, sic principium motionis est ex voluntate." -- Q.D. de Malo, q. 6, a. un; cf. Cajetan, Comment. In Iam IIae, q. 9, a. 1.

apprehension, but as it is within the volitive faculty itself. And, as we said, it is in the will as the 'impulsus' inclining the will to itself as to a fitting term. Yet, that proportion is actually an operation of the will, an act of love proceeding from, and freely elicited by, it. In other words, the very act of love of the will for a particular good, is at one and the same time the cause whereby the will elicits it, and the effect of that elicitation. What is one in physical existence, has a double formality arising from a twofold dependence. As proceeding from the will, it is an action dependent upon the will as any elicited act on the eliciting agent. At the same time it depends upon the object, which 'weighs' on the will, inclines the will to itself, and as such, is a passion received in the will. Put in another way, the one existential act of love has an active and a passive formality. Considered passively, it is the attractive force itself of the object impressing on the will an inclination to itself. Regarded actively, it is an action elicited by the will proportioning itself to the object under the drawing influence of that object. Love passively is thus the causal influence of the end, -- what we call final causality; while love actively is the effect of that final cause. And, although we have final causality and its first

effect identified in the one act of love, nevertheless since they are formally distinct, love as formally passive enjoys a priority of causality, and in that measure precedes love as formally active. (26)

One last precision may be made before considering this same problem with special reference to natural agents. John of St. Thomas has aptly expressed it:

Et cum dicitur quod iste impulsus, seu impressio, aut pondus voluntatis non est principium, et vis impellens, sed terminus respondetur quod ille impulsus est terminus actionis voluntatis ut spiritivae et ut vitaliter se inclinantis in objectum, sed iterum est ratio et vis ponderans ut continuetur amor, vel iterum eliciatur, aut ut crescat, prout efficacius aut tenacius inhaerit voluntati ista impressio de objecto cognito, sicut impellens sagittam, aut lapidem prius motu suo tangit lapidem, imprimens illi impulsus, et ex tali impulsu continuatur motus lapidis, et elicitur usque ad locum destinatum. (27)

That act of love, or impression of the object on the will, which, as passively derived from the appetible object is final causality, does not cease to exert its causal influence once it is elicited. It continues to attract the intellectual appetite until the will is joined with the object in its physical being. The 'proportio', 'coaptatio' of the will to the good, which is elicited by the will as passively dependent upon that good, is really

26) Cf. J.S.T., Curs. phil., T. II, p. 280-283.

27) J.S.T., Curs. theol., T. IV, In Iam, Disp. XII, a. 7, n. 11.

the good as it exists within the will itself. As long as it thus exists in the will, it continues to incline that appetitive faculty to itself, or, in other words, it will continue to exercise its causality as a final cause. "Amatum in voluntate existit ut inclinans et quodammodo impellens intrinsecus amantem in ipsam rem amatum." (28)

B - APPLIED TO NATURAL OPERATIONS -

1.- In General - Nature defined in terms of finality -

Coming to see in what manner the causality from the end obtains in natural agents, it is readily acknowledged that, since natural beings share unequally in nature, in the 'ratio indita' of the Divine Artist, if the final cause affects them at all, it will do so in varying degrees. Nevertheless, some general observations can first be made.

Final causality, as found in voluntary agents, consists in a proportion, a 'coaptatio' of the appetite to a particular good, an impression 'breathed' on the appetite by the apprehended good. Moreover, the proportion in virtue of which the will is determined to one

28) Contra Gentiles, IV, ch. 19.

good, is actually elicited by the will itself, and is its act of love of the determined end. The will must produce this act, otherwise it would remain indeterminate, and never act. Natural agents, on the other hand, are determined by their very nature to a particular end. Given in their nature itself is an inclination to a good that is fitting for them. (29) They do not have to proportion themselves to a suitable object by a determining act; they are already proportioned in their nature, which is an 'impressio', a 'ratio indita' given them by the Institutor of nature.

But this proportion to a definite good is what we have discovered to be final causality. Before the appetible can exercise its causality as a final cause, it must be in the agent in some way. And it does not suffice that it be there as apprehended; it must be in the appetitive faculty so that that faculty is proportioned to it. Only when thus existing in the appetite does the end cause, and its causality consists in that proportion or inclination, which may be otherwise called an act of love. "Omnis autem motus in aliquid, vel quies in aliquo ex aliqua connaturalitate vel coaptatione procedit; quia pertinet ad rationem amoris." (30)

29) Cf. Contra Gentiles, loc. cit.

30) Ia IIae, q. 27, a.4; cf. a.3.

Nature is itself then a love for a determined suitable good, and in that love resides the causality of the end. Thus, matter (nature as a passive principle) is proportioned to the form which is the end of operation. The end is said 'to be in' the matter as form in its corresponding potency; and it is in it as a final cause drawing the matter to a real union with it.(31) Form (nature as active principle) is that whereby matter is proportioned to the end of operation, since matter is in potency to form as to an end by the form that now actualizes it. This actualizing form is the very act of inclination, or proportion to that end, in which act of love is final causality.(32) When we further reflect that 'love' is the principle of a motion tending toward the thing loved(33), we

31) "Omne quo appetit aliquid, appetit illum in quantum habet aliquam similitudinem cum ipso... Sed haec similitudo attenditur dupliciter... Alio modo ex hoc quod forma unius est in alio incomplete, id est in potentia; et sic, secundum quod aliquid habet in se formam finis et boni in potentia, tendit in bonum vel in finem, et appetit ipsum. Et secundum hunc modum materia dicitur appetere formam, in quantum est in ea forma in potentia." -- Q.D. de Ver., q. 22, a. 1; ad 3; cf. Ia IIae, q. 27, a. 3.

32) "Ex hoc autem oritur inclinatio naturalis, quod res naturalis habet affinitatem et convenientiam secundum formam, quam diximus esse inclinationis principium, cum eo ad quod movetur, sicut grave cum loco inferiori." -- Contra Gentiles, IV, ch. 19.

33) "In unoquoque autem horum appetituum, amor dicitur illud quod est principium motus tendentis in finem amatum. In appetitu autem naturali, principium huiusmodi motus est connaturalitas appetentis ad id in quod tendit, quae dici potest amor naturalis." -- Ia IIae, q. 26, a. 1.

realize that nature, since it is a principle of motion tending toward a definite term, is defined in terms of finality.

But the 'coaptatio' of irrational agents to a definite end, which is precisely the causality of the end, does not follow upon an intellectual knowledge in those agents; it is an 'impressio' received from the Author of nature. That is why Cajetan speaks of natural agents acting for an end through a subordinate power, and why St. Thomas often states that such agents are directed to an end.

Considerandum est quod aliquid sua actione vel motu tendit ad finem dupliciter: uno modo, sicut seipsum ad finem movens, ut homo; alio modo, sicut ad alio motum ad finem, sicut sagitta tendit ad determinatum ex hoc quod movetur a sagittante, qui suam actionem dirigit in finem. Illa ergo quae rationem habent, seipsa movent ad finem: quia habent dominium suorum actuum per liberum arbitrium, quod est facultas voluntatis et rationis. Illa vero quae ratione carent, tendunt in finem per naturalem inclinationem, quasi ab alio mota, non autem a seipsis: cum non cognoscant rationem finis, et ideo nihil in finem ordinare possunt, sed solum in finem ab alio ordinantur. (34)

2.- Specific Application -

Manner in which agents are moved.

We may well wonder now whether there is not an

34) Ia IIae, q. 1, a.2.

opposition between the emphasis on 'impressio' or subordinate power through which natural agents act for ends, and the fact that they are said to be directed to their ends. In fact, it is claimed that the explanation of St. Thomas just given means that natural beings do not truly act for an end, but are merely directed to fitting goods. (35) Hence, it is well to consider how things are moved or are directed, to a definite goal. St. Thomas has discussed this at length in the De Veritate.

In rebus enim quae moventur vel aliquid agunt, haec invenitur differentia: quod quaedam principium sui motus vel operationis in seipsis habent; quaedam vero extra se, sicut ea quae per violentiam moventur, in quibus principium est extra nil conferente vim passo. (36)

Quanto enim aliqua natura est Deo propinquior, tanto expressior in ea divinae dignitatis similitudo invenitur. Hoc autem ad divinam dignitatem pertinet ut omnia moveat et inclinet et dirigat, ipse a nullo alio motus vel inclinatur vel directus. Unde, quanto aliqua natura est vicinior, tanto minus ab alio inclinatur et magis nata est seipsam inclinare. (37)

35) This claim of Suarez will be discussed at the end of the present chapter.

36) Q.D. de Ver., q. 24, a.1.

37) Q.D. de Ver., q. 22, a. 4; cf. q. 23, a. 1. In this treatment on the manner in which different beings are moved, we must bear in mind that the word 'move' has a different sense when applied to the immaterial operations of intellectual agents than when said of the actions of natural agents. Only material beings are moved in the strict sense of motion as an imperfect act. But, as we have seen already, motion may be used in the sense of a perfect act, and it is this latter meaning we intend when we speak of voluntary

Among beings that move or are there is a gradation at one extreme of which we find something that moves itself absolutely without to the smallest degree being moved by another, and at the other, something which is absolutely moved by another, itself contributing in no wise to the movement. Act or form, which is act, is the active principle of operation, so that the more in act a being is, the more is it a 'movens'. Potency, or matter, is a passive principle of operation, and it is proper to it to be moved; consequently, the more passivity a being has, the more material it will be and the more will its motion depend on another. The power of a being to move itself then, will be in direct proportion to its actuality, and in inverse proportion to its potentiality, or materiality. God is Pure Act, and He is the *Primum Movens*, moving Himself entirely without any dependence on another. An artifact, qua artifact (or anything subject to violence), has no form or movement properly its own; even its passivity will be its own qua natural thing and not qua

agents as moving and being moved. Thus, we may speak of the 'motion' of the will or of the intellect. For this reason we can say that God moves Himself, even though He is the *Primum Movens Immobile*. For, He knows Himself and loves Himself, and the actions of knowing and willing may be called 'motions'. Cf. Ia, q. 18, a.3, ad 1.

artifact. (38) Therefore its motion is wholly from another; it is completely directed to a definite term by another.

a) Voluntary agents -

Between these two extremes we find beings which are composed of potency and act, or of matter and form, and so in some way they have in themselves the principle of their movement. All of these will be moved to some degree, since they are partly passive. Among these we may distinguish agents whose movement is in their own power in such a fashion that they may determine the direction or the term of their movement. These are the voluntary agents as distinguished from non-voluntary, whose dominion over their acts does not extend to the selection of their own ends.

A voluntary or intellectual agent has dominion over its acts because of its immateriality. It is so

38) A natural effect may follow from an artificial thing; yet the effect is reduced to the artificial thing, not inasmuch as it is artificial, but insofar as it is natural, that is, insofar as it is composed of one or more material substances that have a nature. A machine may explode, but the explosion is caused by the action of the natural elements that make up the machine (steel, gas, etc.) and not by the machine qua artificial product. Cf. IIa IIae, q. 96, a. 2, ad 2; Quaestiones Quodlibetales, Qdl. 12, q. 9, a. 2.

removed from the restrictive potency of matter (although not entirely from the realm of potentiality) that it is able to have within itself in a universal way the forms of things existing outside of it. Now since form is the principle of action or operation, for every form an agent possesses a consequent inclination and operation is possible. The intelligible forms in voluntary agents are, however, universal in nature, comprehending a multiplicity of things; hence, any inclination flowing from them must likewise be universal. It is in this sense that we say the proper object of the intellectual appetite is a universal end or good.

... In homine invenitur forma intellectiva, et inclinatio voluntatis consequens formam apprehensam, ex quibus sequitur exterior actio; ... forma intellecta est universalis sub qua multa possunt comprehendi; unde cum actus sint in singularibus, in quibus nullus est quod adaequet potentiam universalis, remanet inclinatio voluntatis indeterminate se habens ad multa. (39)

Unless the voluntary agent determines itself to act, to move in pursuit of some end, it will rest indeterminate with regard to many particular goods. Such an agent determines itself by judging the particular goods, weighing their fittingness to itself. If it judges one to be of special value it will move itself to obtain it

39) Q.D. de Malo, q. 6, a. un.

by eliciting an act of love, while remaining dependent on the object's appetibility.

Yet, the judgment on the suitability of the particular good is also indeterminate. "Cum ergo voluntas se consilio moveat, consilium autem est inquisitio quaedam non demonstrativa, sed ad opposita viam habens, non ex necessitate voluntas seipsam habet."⁽⁴⁰⁾ If it were not indeterminate, neither could the will be indeterminate, because the will determines itself by its judgment. If the judgment were already determined and necessary, the appetite of the will following on the judgment would be determined and necessary, with the result that the voluntary agent would not have dominion over its acts.

The voluntary being succeeds in determining itself by judging its judgment. Because of the immateriality of its cognitive faculty, the voluntary agent can reflect upon its acts and know the relationships that exist among the things of which and by which it judges.

40) Q.D. de Malo, q. 6, a. un. Remember we are speaking now of created voluntary agents, which means angels are included. This citation however applies strictly to human wills, because in them alone do we find 'counsel'. Nevertheless, the perfection implied, a 'free judgment', is shared in by angels; we have only to remember that the latter do not make that judgment after deliberation. Cf. Ia, q. 59, a.3, ad 1 and 2.

Judicium autem est in potestate judicantis secundum quod potest de suo judicio judicare: de eo enim quod est in nostra potestate, possumus judicare. Judicare autem de judicio suo est solius rationis, quae super actum suum reflectitur, et cognoscit habitudines rerum de quibus judicat, et per quas judicat. (41)

The voluntary agent through its intellectual power can know by comparison and reflection the suitability of the end and of the means, and the relationship of end to means. This knowledge enables it to judge its judgments; therein lies its freedom, its dominion over its acts. Because it can judge its judgments, it is the cause of its judgment.

Homo vero per virtutem rationis judicans de agendis, potest de suo arbitrio judicare, in quantum cognoscit rationem finis et eius quod est ad finem, et habitudinem et ordinem unius ad alterum: et ideo non est solum causa sui ipsius in movendo, sed in iudicando; et ideo est liberi arbitrii, ac si diceretur liberi arbitrii de agendo vel non agendo. (42)

The degree of actuality that the created voluntary agent possesses raises it above the plane of the material and enables it to remain indifferens ad multa, indeterminate in relation to many particular goods. In consequence, not only does it move itself in common with all animated beings, to the execution of its motion, and like all cognitive beings, to the acquisition of forms

41) Q.D. de Ver., q. 24, a. 2.

42) Q.D. de Ver., q. 22, a. 1.

which are the principles of motion, but it also moves itself to its own assigned ends.⁽⁴³⁾ And, owing to this latter privilege, it enjoys free dominion over its acts. Still the created voluntary agent has some admixture of potency, and to the extent this is true, it must be moved by another. Although it is indifferent to particular ends, it is not indeterminate with respect to its ultimate end, the universal good. The appointment of this end does not come under its power, but is assigned by another; hence, it must be moved to it by that other. To this extent the voluntary agent is determined ad unum.

Sed quamvis intellectus noster ad aliqua se agat, tamen aliqua sunt ei praestituta a natura; sicut sunt prima principia, circa quae non potest aliter se habere, et ultimus finis, quem non potest non velle. Unde, licet quantum ad aliquid moveat se, tamen oportet quod quantum ad aliqua ab alio moveatur. (44)

Further, in regard to the very exercise of its act of willing, the voluntary agent must be first moved by another. The will is a determinable faculty that passes from potentially willing to actually willing, ex actu primo ad actum secundum. Once it wills something in act, it can move itself to willing something else in act; but unless we admit an infinite regress, we have

43) Cf. Ia, q. 18, a. 3.

44) Ia, q. 18, a. 3.

to say that the will has to be moved to its first act of willing by something exterior. In this way also it is said to be directed.

Cum ergo voluntas se consilio moveat, consilium autem est inquisitio quaedam non demonstrativa, sed ad opposita viam habens, non ex necessitate voluntas seipsam movet. Sed cum voluntas non semper voluerit consiliari, necesse est quod ab aliquo moveatur ad hoc quod velit consiliari; et si quidem a seipsa, necesse est iterum quod motum voluntatis praecedat consilium, et consilium praecedat actus voluntatis; et cum hoc in infinitum procedere non possit, necesse est ponere, quod quod quantum ad primum motum voluntatis moveatur voluntas cuiuscumque non semper actu volentis ab aliquo exteriori, cuius instinctu voluntas velle incipiat. (45)

b) Non-voluntary agents -

Non-voluntary, or irrational, agents have so much potentiality that they are immersed in matter, although to varying degrees. Man, the lowest in the scale of voluntary agents, rises above the plane of materiality, but not completely, for he is extrinsically dependent upon material phantasms for his intellectual operations. He represents, as it were, a limit which irrational beings approach in their varying actuality. The greater the actuality of the irrational agent, the higher the form

45) Q.D. de Malo, q. 6, a.un; Cf. Ia, q. 63, a.5, where is explained that angels also are moved to their first act of willing; also Cajetan's Comment.

that it has, the less will it be subject to the restrictive determinations of matter, and the closer will it approach immateriality. For this reason we can speak of some non-intellectual agents as being more immaterial than others.⁽⁴⁶⁾ To the degree that they are immaterial, their movements will be imputed to their dominion. Conversely, they will be moved, directed by another to the extent that they are material.

1) Irrational animals -

Brute animals, who are next to men in the hierarchy of being, and highest in the scale of irrational agents, are far enough removed from the complete determination of matter as to be able to receive into themselves the forms of other things. Accordingly, a plurality of inclinations and motions toward definite ends are possible to them, so that we can say that in a real sense they are ad multa. Having apprehended through his senses some particular good, say, a bone, a dog instinctively desires that good and moves himself to secure it. "Quaedam bruta vero ulterius movent seipsa, non habito respectu ad executionem motus, sed etiam quantum ad formam quae est principium motus, quam per se

46) Cf. Q.D. de Ver., q. 23, a. 1.

acquirunt." (47)

Unlike the intelligible forms of voluntary agents, however, which are universal and immaterial, the apprehended forms of brutes are singular and material. Hence, an inclination to one thing only can follow upon each form.

Nam forma apprehensa per sensum est individualis, sicut et forma rei naturalis; et ideo ex ea sequitur inclinatio ad unum actum sicut in rebus naturalibus, sed tamen non semper eadem forma recipitur in sensu sicut est rebus naturalibus, quia ignis est semper calidus, sed nunc una, nunc alia, puta nunc forma delectabilis, nunc tristis; unde nunc figit, nunc prosequitur. (48)

This inclination to, or appetite for, the particular good differs from that of voluntary agents in that the act of love by which the intellectual appetite is proportioned to the end is the result of its own free judgment, whereas that of that animal appetite flows from a natural judgment, or instinct given it by the Author of its nature. Both these agents receive the forms of things existing outside themselves, but the voluntary agent, since he knows the universal reasons of things, can judge of the fittingness or unfittingness of particular goods

47) Ia, q. 18, a.3; cf. J.S.T., Curs. theol., T. V, In Iam IIae, Disp. I, a.2, nn. 34-36.

48) Q.D. de Malo, q. 6, a. un.

for him. He can see the relation of means to ends, judge his own judgment and assign to himself certain ends. The animal knows the sensible and singular only, and its material mode of cognition, inadequate to the tasks of comparison and reflection, does not allow any judgment on the proportion between it and the apprehended good. This must be done for it by another, namely, the Creator, who places in brute animals a quasi-judicative power, -- a kind of natural prudence, by which the animal knows immediately and instinctively whether or not the thing apprehended is a good for it. Acting upon this judgment, the animal elicits an appetitive act either for the thing itself, if it is a good, or for flight away from it, if it is an evil. This particular judgment of the animal is a necessary one, determined in its very nature; and the appetite following it is also determined.

Bruta autem habent aliquam similitudinem rationis, in quantum participant quandam prudentiam naturalem, secundum quod natura inferior attingit aliquammodo ad id quod est naturae superioris. Quae quidem similitudo est secundum quod habent iudicium ordinatum de aliquibus. Sec hoc iudicium est eis ex naturali aestimatione, non ex aliqua collatione, cum rationem sui iudicii ignorent; propter quod huiusmodi iudicium non se extendit ad omnia, sicut iudicium rationis, sed ad quaedam determinata.

Sed quia iudicium eorum est determinatum ad unum, per consequens et appetitus et actio ad unum determinatur. (49)

49) Q.D. de Ver., q. 24, a.2; cf. J.S.T., op. cit., n. 36.

The intellectual appetite previous to willing, is indeterminate with respect to many particular goods. It needs a special act of love elicited by it, through which it is proportioned and determined to one thing. The same is true of the animal appetite.

Potentia motiva brutorum secundum se considerata non magis inclinatur ad unum oppositorum quam ad alterum; et sic dicitur quod possunt moveri et non moveri. Sed iudicium quo applicatur potentia motiva ad alterum oppositorum, est determinatum; et sic non sunt liberi arbitrii. (50)

Although it is necessitated by a natural judgment in eliciting its appetitive act the actual eliciting is from the motive power of the animal itself, by which it moves from potentially desiring this end to actually desiring it. This the animal appetite can do, because it was previously in act of desiring something else. So again, lest we hold the possibility of an infinite regress, we must acknowledge that the animal in its first appetitive act has to be moved by another from first act to second act. (51)

2) Plants -

Vegetative beings occupy the next rung in the

50) Q.D. de Ver., q. 24, a. 2, ad 2.

51) Cf. Cajetan, Comment. In de Anima (ed. Angelicum), nn. 12-25.

ladder of irrational agents. Scarcely rising above the absolute determination of matter, they are so remote from immateriality that they are incapable of taking other things into themselves in the immaterial manner of cognition; they must absorb material things materially by receiving them as nutriment and changing them into their own substance. Both the form by which they act, and the end toward which their operations tend are determined by their very nature, and to this extent they are moved by their Maker. Only the actual exercise of their operations comes under their power, so that they move themselves to the execution of their motion.

Inveniuntur igitur quaedam, quae movent seipsas, non habito respectu ad formam vel finem, quae inest eis a natura, sed solum quantum ad executionem motus: sed forma per quam agunt, et finis propter quem agunt, determinatur eis a natura. Et huiusmodi sunt plantae, quae secundum formam inditam eis a natura, movent seipsas secundum augmentum et decrementum. (52)

In his commentary on the De Anima, St. Thomas points out that plants have a certain indetermination inasmuch as their proper operations are in some way ad multa. "Natura non movet ad contraria loca: motus autem augmenti et decrementi est secundum contraria loca. Augentur enim vegetabilia omnia, non solum sursum et

52) Ia, q. 18, a.3; cf. J.S.T., op. cit., n. 34.

deorsum, sed utroque modo." (53) Plants are capable of growing in contrary directions, stems ascending, roots descending, branches extending. Also, if an obstacle is placed in the path of its growth, the plant may work itself around, above, or over it. This shows a certain spontaneity in vegetative actions. (54)

In addition, the motor faculty of vegetal beings, like that of voluntary agents and animals, may be in a state of mere power to act. (55) Hence they too must be moved to the actual operation of their first act by the Creator.

3) Inorganic beings -

Finally, we descend to the lowest of irrational agents, inanimate beings. These are so potential that they are completely confined by the conditions of matter. Everything is determined for them by their nature. Like plants, inorganic beings have but the one form of their substantial being, and a consequent inclination to one

53) In II de Anima, lect. 3, n. 257.

54) In this we can recognize an anticipation of the liberty found in voluntary agents, which anticipation becomes more and more prominent as we rise through the different levels of animal life. In the playful antics of higher animals, such as monkeys and cats, we find this anticipation full blown. Cf. Q.D. de Ver., q. 24, a. 2c and ad 3.

55) Cf. Cajetan, Comment. In de Anima, nn. 12-25.

end, but unlike them, they have no semblance of spontaneity in achieving that end; they are absolutely determined in their operations.

Intellectus enim fit in actu per formam intelligibilem in quantum est intelligens, sicut res naturalis fit actu in esse naturali per propriam formam. Res autem naturalis per formam qua perficitur in sua specie, habet inclinationem in proprias operationes et proprium finem, quem per operationes consequitur: quale enim est unumquodque, talia operatur, et in sibi convenientia tendit. (56)

In inorganic beings even the execution of their proper operations cannot be attributed to them, since they are in no wise indeterminate with respect to operation. Never do they pass from ability to operate to actual operation; they are always in second act, so that, provided they receive no interference from exterior agents, they will always attain their proper end. In this way we may compare them to the first act of all other agents, both voluntary and animate, which must also be moved to actual operation by the Divine Artist. But whereas these latter have a certain indetermination, a certain freedom, left to them, which they can resolve in virtue of this first movement, inanimate beings are completely determined to one, and have no further act to which they can move themselves. Hence, in every way the inorganic being is

56) Contra Gentiles, IV, ch. 19.

moved, is directed by another. (57)

This does not imply, however, that the operation or motion of the inanimate being does not properly belong to it, for its motion flows from its very essence. Just as the first act of the voluntary agent is still its own, even though it had to be moved to it, so the motion of the inanimate agent is its own. (58)

3.- Summary -

This perspective of the scale of being serves a dual purpose: it shows how the 'impression' in virtue of which natural agents are subjected to final causality, and subsequent to which they move to their respective ends, is variously participated in by different natural agents; and it points out, in view of resolving a forthcoming objection, what St. Thomas means when he says that natural agents are directed to their ends. Since some confusion

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- 57) "Potest (voluntas) enim exire in actum volendi respectu cuiuslibet, et non exire. Quod in rebus naturalibus non contingit: grave enim semper descendit deorsum in actu, nisi aliquid prohibeat. Quod exinde contingit, quod res inanimatae non sunt motae a seipsis, sed ab aliis; unde non est in eis moveri vel non moveri." -- Q.D. de Ver., q. 22, a. 6. "Quod (viz., sese movere) quidem in rebus pure corporalibus esse non potest; quia formae earum non possunt esse moventes, quamvis possint esse motus principium, ut quo aliquid moventur." -- Ibid., a.3; cf. ibid., q. 23, a.1.
- 58) Cf. Q.D. de Ver., q. 22, a.1.

may have resulted from the ramifications through which our survey led us, we had best underscore in the form of a recapitulation our first point, before taking up the objection.

First of all, it is immediately realized that natural agents have this 'impression' to the extent that they are moved, or insofar as they are natural agents, for the Creator moves them by giving them a determined nature. This is to say, that where their motion ceases to come under their power and springs from a determination ad unum placed in their nature by the Divine Artist, there do they begin to act through their 'impression'. For the 'impression' is nothing other than a natural determination in virtue of which the natural agent is proportioned to a particular end or good. It is distinguished from the free determination of voluntary agents, who proportion themselves to an end of their own selection. Thus inanimate beings, since they are in every way moved, are in every way natural, and in their very essence they are inclined to some one end. (59)

Although plants have a certain indetermination in their operations, and so in some way move themselves, nevertheless in regard to the point under consideration

59) See reference 32.

they differ little from inanimate agents. For that reason they may be classed with them, as St. Thomas does:

Natura igitur insensibilis, quae ratione suae materialitatis est maxime a Deo remota, inclinatur quidem in aliquem finem, non tamen est in ea aliquid inclinans, sed solummodo inclinationis principium. (60)

Animals, approaching closest to the unattainable limit of the free determination in men, can be said to be partly responsible for their own determination or proportion, inasmuch as they move themselves to the apprehension of forms, from which follow inclinations to the respective apprehended goods. (61) But the animal appetite is actually moved to elicit those inclinations by a natural judgment. So its proportion to a fitting good is a determination of nature, an 'impression' received from the Artisan of nature. And just as the intellectual appetite needs a special act freely elicited by itself for every end it seeks, so the animal appetite requires a special 'impression' for every good it pursues.

60) Q.D. de Ver., q. 24, a. 4.

61) "Inclinatio appetitus sensitivi partim est ab appetente, in quantum sequitur apprehensionem appetibilis, unde dicit Augustinus quod animalia moventur visis; partim ab objecto, in quantum deest cognitio ordinis in finem, et ideo oportet quod ab alio cognoscente finem, expedientia eis provideantur. Unde ad ea naturali inclinatione moventur. Et propter hoc non omnino habent libertatem, sed participant aliquid libertatis." -- In III Sent., d. 27, q. 1, a. 2.

In conclusion, since final causality has been shown to consist in the very proportion, inclination, 'coaptatio' of the agent to the appetible, there can be no doubt that the influence of the final cause comes into play in natural operations. Natural agents act as natural agents precisely when they act through such a proportion, or inclination, to a determined end. The end is in the natural agent exerting its causal influence in virtue of that agent's innate determination to it. This does not imply that intelligence is not required for final causality. It still is. But for natural agents the intellectual knowledge is supplied by the Author of nature.

Appetitus enim non respicit de necessitate esse spirituale sicut cognitio. Unde potest esse naturalis appetitus, sed non cognitio. Nec tamen hoc prohibetur per hoc quod appetitus in universalibus cognitionem sequitur: quia in rebus naturalibus sequitur apprehensionem: non tamen ipsorum appetentium, sed illius qui ea in finem ordinat. (62)

4.- Appendix -

We may add here a note (63) we promised in our first chapter. It concerns the ordered imposition of the term nature. We will recall that one order of imposition traced the progress of our knowledge from its first confused

62) Q.D. de Ver., q. 22, a. 1, ad 2.

63) See Chap. 1, footnote 33.

state to its final distinction and clarity. At the end of this process we formulated the proper definition of nature and gave another order of imposition. This second order reflected an attempt to apply our definition of nature to various natural beings to find the different ways in which the definition is realized. It is this second order of imposition we are now in a position to account for.

Since nature is the intrinsic principle of motion and rest in virtue of which things act for a determined end, an agent will be said to be more natural, the more its operations are determined by its nature. Inorganic beings, as we have just seen, are fully determined in their activity, and therefore, 'nature' is first said of them; indeed 'natural being' most often has exclusive reference to them. And since plants show a minor degree of indetermination, inasmuch as their growth-movement is ad contraria loca, nature is said next of them. Yet, as has already been indicated, they are often classed with inorganic beings, because they approximate so closely the complete determination of these latter. Thus, the phrase "natural appetite" is used to express the inclination to an end in both inanimate and vegetal beings, as opposed to the sensible appetite of animal nature. (64)

64) Cf. In III Sent., d. 27, q. 1, a. 2.

Animals display a greater amount of indetermination, while still failing to reach the liberty of intellectual nature, and so nature is said less strictly, though properly, of them. Even among animals themselves though, some merit more than others the appellation 'nature'. Brutes share unequally in the powers of sensitivity; some enjoy only the fundamental sense of touch, whereas others have more, and some all, of the sense faculties. And it follows that the better the animal's power of sensation, the more perfect will be its knowledge, since it will be able to receive the cognitional forms of more things into itself. This, in turn, will allow it more indetermination with regard to action, and accordingly it will act less from nature.

Here, and in the foregoing discussions, we have considered the different natural beings with respect to their proper determinations, that is, the natural determinations peculiar to them in accordance with the degree of being they represent. Thus, animals were discussed with reference to sense life, and we saw how actions on the sensitive level were determined by nature; plants, with reference to vegetative life, etc. It must not be thought, however, that this is the only manner in which these agents share in nature. Every natural agent participates also in the determinations of the natures below it. The nature of

the animal, besides comprising a determination to each sensible good following a sensible apprehended form, includes as well the determinations to vegetative operations proper to vegetative life, and the determinations proper to inorganic nature. The reason for this is that the animal soul, which is the substantial form and intrinsic principle of operations of animals, contains in a more perfect way the perfections of the substantial forms of beings below it, as every higher form contains eminently the perfections of lower forms. This also applies to man. (65) Although we cannot speak of the intellectual and voluntary operations of man as proceeding from his soul as from nature, in the sense that nature is understood here, we can nevertheless speak of his other activity as being natural, and therefore determined by nature. His soul has eminently the perfections of all lower natures. Because he has a body, he has a natural determination to fall; because his is an animated body, he is naturally determined to growth, and generation; because his is a

65) "Sed natura rationalis, quae est Deo vicinissima, non solum habet inclinationem in aliquid sicut habent inanimata, nec solum movens hanc inclinationem quasi aliunde eis determinatam, sicut natura sensibilis; sed ultra hoc habet in potestate ipsam inclinationem, ut non sit ei necessarium inclinari ad appetibile apprehensum, sed possit inclinari vel non inclinari. Et sic ipsa inclinatio non determinatur ab alio, sed a seipsa." -- Q.D. de Ver., q. 22, a. 4.

sensitive living body, he has natural instincts to seek particular goods, or flee particular evils.

But, regardless of these observations apropos of certain indeterminations in some natural agents, all of their motions remain natural. However indeterminate some may be with regard to certain aspects of their operations, none of them are indeterminate with respect to the end of their activity. All of them, we have seen, are inclined by nature to their end; in truth, their nature is an inclination to a definite end. And if the term of the motion is determined, so must the motion itself be. Thus the motion of natural agents, and the motions of human agents when acting as natural agents, are all natural.

Cum enim animal movetur deorsum, quidem est motus ejus naturalis et toti animali et corpori, eo quod in corpore animalis elementum grave praedominatur. Cum autem animal movetur sursum, est quidem naturalis motus animali, quia est a principio intrinseco ipsius, quod est anima; non tamen est naturale corpori gravi, unde et magis fatigatur animal in hoc motu. Motus autem secundum locum in animalibus causatur ex appetitu et apprehensione sensitiva vel intellectiva, ut Aristoteles docet in III de Anima. In aliis quidem animalibus totus processus motus naturalis est; naturaliter enim et hirundo facit nidum et aranea telam. (66)

66) Opusculum Minus, De Motu Cordis (ed. Lethielleux), T. I, n. 4.

C - CONTENTION WITH SUAREZ -

As a concluding note to this discussion of final causality in nature, we may consider what Francis Suarez, S.J., has to say on the subject. The dialectic of objection and response will always remain the most efficacious way of throwing the truth into relief, and a glance at Suarez can thus be turned to genuine and constructive advantage.

In his "Disputationes Metaphysicae" Suarez has devoted a section to the study of final causality in natural agents. His solution of the problem is summed up in this statement:

Nihilominus proprius modus loquendi hac materia est, actiones horum agentium naturalium esse propter finem, et esse effecta causae finalis. Non tamen ut praecise egrediuntur ab ipsis naturalibus agentibus, sed ut simul sunt a primo agente, quod in omnibus et per omnia operatur. Vel e converso (et fere in idem rredit) prout ipsa proxima agentia substant directioni et intentione superioris agentis. Et ideo ipsa agentia naturalia non tam dicuntur operari propter finem, quam dirigi in finem a superiori agente. (67)

This position is not offered as an anti-Aristotelian solution. On the contrary, Suarez insists it is the thought of Aristotle and St. Thomas. (68) In showing that he has

67) Francis Suarez, S.J., Disputationes Metaphysicae (Paris: Vives, 1856), Disp. 23, sec. 10, n. 5. (Underlining mine.)

68) Cf. Suarez, loc. cit.