Causality in External Sensation According to Saint Albert the Great

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CAUSALITY IN EXTERNAL SENSATION ACCORDING TO
SAINT ALBERT THE GREAT

BY
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VITA AUCTORIS

James Vincent McGlynn, S.J., was born at Cleveland, Ohio, July 20, 1919. He attended St. Rose School, Cleveland, and on completion of his grammar school course in 1933 he entered St. Ignatius High School there. Upon graduation in 1937 he was enrolled in the College of Arts and Sciences of John Carroll University in Cleveland. After completing one year there, he entered the Jesuit Novitiate at Milford, Ohio, in September, 1938, and continued his undergraduate work in the College of Arts and Sciences of Xavier University, Cincinnati, Ohio, from which he received the degree of Bachelor of Letters in June, 1942. In the fall of the same year he entered West Baden College, West Baden Springs, Indiana, and was enrolled in the Graduate School of Loyola University to pursue his studies for the degree of Master of Arts.
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INTRODUCTION

The problem of causality in external sensation has been one that has caused philosophers much difficulty since it involves the knotty problem of the interaction of matter and spirit. Obviously, it would seem, no mere material body can cause a change in a simple spiritual entity like man's soul. Yet the psychic state that is an essential part of sensation seems to be an affection of such a simple soul, and likewise seems to be caused by the material objects around man. This problem has been aggravated for those philosophers who emphasize the dualism of matter and spirit, and, fearful lest they confuse the two in man, so widen the gap between body and soul that they insulate the soul completely from the causal influx of the body.

It is the purpose of the present paper to show the solution which one thinker, St. Albert the Great, proposed to solve the problem of causality in sensation. From an investigation of St. Albert's writings we shall describe his theory of causality in external sensation and attempt to determine how successfully his explanation solved the basic problems of this causality.

The order of procedure will be simple. We shall begin with a brief sketch of the history of causality in sensation from Plato and Aristotle to St. Albert. This will comprise the first chapter. The second chapter will contain a short delineation of the notions basic to St. Albert's explanation and a summary of some important terminology.
The third chapter, which is the heart of the thesis, will contain an exposition of Albert's explanation of sensation and show what he contributed to the scholastic theory as he found it. The fourth and last chapter will comprise a critical evaluation of St. Albert's explanation in the light of the complete and scholastic theory, especially as proposed by his famous pupil, Thomas Aquinas. With such an examination we shall have completed our attempt to solve the fundamental problem of this thesis: What was the specific contribution of St. Albert the Great to the scholastic doctrine of causality in external sensation.
CHAPTER ONE

HISTORY OF THE QUESTION

It was Plato who advanced the first theory of sensation that was of major importance. He saw the real nature of sensation and set out to explain its workings. According to Plutarch, Plato characterized sensation as "a communion of soul and body in relation to external objects."¹ In the Philebus Plato gives a description of sensation which, understood correctly, could almost be used by a scholastic philosopher. He says:²

Suppose some of the affections which are in the body from moment to moment exhaust themselves in the body alone, before—or without—reaching the soul, thus leaving the latter unaffected; while others pass through both and impress on both a sort of tremor of quite a peculiar kind, in which both body and soul participate. ... When both body and soul in this way partake of the common affection, and are moved by this common movement, if you call this sensation, you would speak quite correctly.

But while we can accept Plato's description we cannot accept it as he meant it. For Plato's cosmology could never be a basis for a scholastic theory of cognition, since the author of the dialogues did not give the same objective existence to the external material world.

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² Ibid.; cf. Philebus, 33d-34a
that we do. The sensible world was for him variously participation, community, and imitation of the only reality, the ideas. The sensible objects are between the reality of the forms and the nothingness of not-being. They are a sort of becoming or motion. What is more, the sensible objects exist only when they are being sensed. Plato states this very clearly in the Theaetetus:

And yet, when I become percipient, I must necessarily become percipient of something, for it is impossible to become percipient and perceive nothing; and that which is perceived must become to someone, when it becomes sweet or bitter or the like; for to become sweet, but sweet to no one is impossible.... The result, then is that we are bound to one another; and so if a man says anything "is", he must say it is to or of or in relation to something...

This emphasis on the relativism of sensation led Plato to a subjectivism that vitiated his doctrine of sensation. Plato found himself trimming down the reality of the external world, until in the Republic he made sensible objects shadows of images of men, animals, and other things—shadows twice removed from reality.

3 cf. A. E. Taylor, Plato--The Man and His Work, Dial Press, New York, 1936, 188; also Phaedo 100d, "I hold that nothing else makes it beautiful but the presence or communion...of absolute beauty." (trans. by H. N. Fowler in Loeb Classical Library, Wm. Heinemann, London, 1925, I, 345); also Parmenides, 132d, "I think that the most likely view is, that these ideas exist in nature as patterns and that other things resemble them and are imitations of them; their participation in ideas is assimilation to them, that and nothing else." (trans. by H. N. Fowler in Loeb Classical Library, Wm. Heinemann, London, 1928, VI, 219-221)
4 J. Burnet, Greek Philosophy, Part I Thales to Plato, Macmillan, London, 1924, 240; cf. Theaetetus, 156d-157a
5 Theaetetus, Sophist, trans. by H. N. Fowler, Heinemann, London, 1928, 71
6 Republic, vii, 514d
Despite this theory of being, Plato's explanation of sensation had many insights that, in other hands, would lead to a fuller explanation of sensation. Plato held five external senses which were exercised through the instrumentality of sense organs\(^7\)--an instrumentality that is not explained. He also postulated a common sense which was for him an activity of the soul alone.\(^8\)

Plato also decided that all the sensibles except those of sight act directly on the sense organs. In sight alone a medium is needed because only in sight does the absence of a third thing---light---prevent sensation.\(^9\) In hearing and the other senses the active motion of the body and the passive motion of the sense interact without any outside help. In sight, however, light is needed for sight takes place only when the fire streaming from the eye and the fire which is the color of the object, (Plato held the four elements), cooperate with the support and substantiation of the fire of daylight in the air.\(^10\)

The causality involved in these operations is extremely obscure. Sometimes it seems that the object and the sense, (in sight the medium, 

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7 Burnet, *Greek Philosophy*, I, 246; cf. *Theaetetus*, 184c
8 *ibid.*, 247; cf. *Theaetetus*, 185b-c
9 Beare, 48; cf. *Republic*, vi, 507d, "Though vision may be in the eyes and its possessor may try to use it, and though colour be present, yet without the presence of a third thing specifically and naturally adapted to this purpose, you are aware that vision will see nothing and the colours will remain invisible... The thing...you call light." (trans. by P. Shorey in *Loeb Classical Library*, Wm. Heinemann, London, 1930, II, 99)
too), have efficient action.\textsuperscript{11} At other times the passive motion which Plato ascribes to the sense seems to be passive potency as conceived by Aristotle.\textsuperscript{12} Frankly it is impossible to decide precisely what causality each factor exercises.

Plate has given us notions that will lead to a fuller explanation of the sensitive process, but he himself has muddled the question very badly. Had he followed out his metaphysical doctrine of subsistent ideas he would have become an idealist and rejected sensation entirely. However, he did not become an idealist and tried unsuccessfully to solve the puzzle of sensation.

The Platonic trend none the less was definitely towards idealism. Whether this trend would have carried on to a fully developed idealism is anybody's guess. In the actual course of events Aristotle came along combining speculative genius with empirical hard-headedness. He decided to base his philosophy on physical reality and not on abstract ideas. Plato had started with abstraction and succeeded in his attempt to reach reality only at the expense of consistency. Aristotle would take the opposite course and try to teach abstraction from reality.

\textsuperscript{11} cf. \textit{Timeaus}, 44a, "And whenever external sensations in their movements collide with these revolutions and sweep along with them also the whole vessel of the Soul, then the revolutions, though actually mastered, seem to have mastery." (Loeb, 97)

\textsuperscript{12} cf. \textit{Theaetetus}, 156a-156d, "...there are two kinds of motion...and of these one has an active, the other a passive force. From the union and friction of these two are born...the object of sense and the sense...the eye and some appropriate object beget whiteness and the corresponding perception..." (Loeb, 57)
The physical world for the Stagirite was composed of universal natures individualized and embodied in matter. The universal, as universal, exists only in the mind; outside us are only singulars.

The bodies of this physical universe are composed of matter and form, potential and actual principles. Matter is inert, a substratum actualized by the form. Forms are substantial and accidental, giving esse simpliciter and esse tale respectively. It is the accidental forms that are the proper object of sense cognition. These qualities are capable of an operation that impresses a likeness of their forms on the senses designed to receive them. This perception is called the apprehension of forms without the matter, because, since the matter of the object known is inert, it cannot activate a perception of itself in the sense.

13 W.D. Ross, Aristotle, Methuen, London, 1937, 158; cf. Metaphysics, VI, 16, 1040, b 27: "It is evident then that no universals exist over and above the individual objects and separate from them." (trans. in C. Bakewell, Source Book in Ancient Philosophy, Scribners, New York, 1907, 224)

14 ibid., 165-166

15 E. Zeller, Aristotle and the Earlier Peripatetics, trans. by B. Costelloe and J. Muirhead, Longmans, London, 1897, II, 60; also W. Hammond, Aristotle's Psychology, Swan, London, 1902, xxxv; cf. II De An., 418a, "To the objects of sense, strictly regarded, belong such properties as are peculiarly and properly sense qualities, and it is with these that the essential nature of each sense is naturally concerned." (trans. in Hammond, 70)

16 Zeller, loc. cit.; cf. II De An., 424a, "In reference to sensation in general we must understand that a sense is capable of receiving into itself sensible forms without their matter, just as wax receives into itself the mark of a ring without its iron or gold." (Hammond, 93)

17 ibid.
These forms, however, are not known apart from the conditions of matter because sensation is an act of the composite subject of matter and form, and not a spiritual activity of the soul alone.\textsuperscript{18} The sentient subject receives the form of the object into a corporeal organ, but form does not have the same mode of existence in the sense that it did in the object.\textsuperscript{19}

In Aristotle's explanation the object is the cause of sensation. The sensible object causes a qualitative change in the sense; the sense, having received this change, is said to have actual sensation.\textsuperscript{20} This reception, however, is not a mere passive taking on of a new form; the sense seems to have some kind of immanent operation.\textsuperscript{21} Aristotle is not clear on this point, yet he does seem to have held the activity of the sense that his scholastic followers professed. We are not told the exact nature of this operation of the sense.

As we shall see later, Aristotle's explanation of sensation is the scholastic explanation. The scholastics filled in the details and made distinctions that Aristotle may or may not have thought of. Their doctrine is, in any event, the logical development of the Stagi-

\textsuperscript{18} P. Siwek, S.J., \textit{La Psychophysique Humaine D'Apres Aristote}, Alcan, Paris, 1930, 94; cf. \textit{I De An.}, 403a, "In most cases the soul apparently neither acts nor is acted upon independently of the body, e.g. in the feelings of anger, courage, desire, or in a word, in sense perception." (Hammond, 6)

\textsuperscript{19} \textit{Ibid.}, 107; cf. \textit{II De An.}, 424a, "It (the organ of sense) has an identity with the object that makes the impression, but in its mode of expression it is different." (Hammond, 92)

\textsuperscript{20} Zeller, II, 60

\textsuperscript{21} \textit{Ibid.}, 59, n.3
rite's explanation. Aristotle did most of the work, the scholastics picked up where he left off.

The next philosopher of name to come to grips with the problem of sensation was Plotinus. An investigation of sensation was a part of his rehabilitation and development of Platonism. It is no easy task, however, to discover precisely what Plotinus held. He says that sensible reality is merely phenomenal, devoid of true reality. Just what he means by this is not clear. He seems to say that souls create bodies for themselves and give them an "image of life." Uberweg says it is a reality at most analogous with the reality of the spiritual world.

According to Plotinus the soul is in the body as a pilot in a ship and so has its own activities, some apart from the body and some in the

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22 cf. Enneads, I, 8, 3, 73d; Plotinus calls sensible reality non-being, explaining it, "By not-being I do not mean absolute non-existence, but only what is different from real existence. Nor do I mean not-being in the sense that motion and rest...are not-being, but rather in the sense of an image of real existence or of something which has even less existence than an image." (trans. by Bakewell, op. cit., 375) "What I am alluding to is the phenomenal universe and all the affections of the sensible world." (Bakewell, 375)

23 cf. Enneads, Iv, 3, 10, "But soul by the power of essence has dominion over bodies in such a way that they are generated and subsist just as she leads them...For that which it (soul) imparts to body is an image of life." (trans. by T. Taylor in Select Works of Plotinus, George Bell, London, 1895, 220)

Sensation is an activity of the soul in the body. Plotinus does not mention the active and passive motion of Plato, rather he speaks of the activity of the soul working through the instrumentality of the body. Nowhere does he allow any real causal influence to the object in actual sensation. There is a certain passivity of body but perception is an activity of the soul. Clearly the causality for Plotinus lies in the subject and not in the object.

After Plotinus St. Augustine came upon the philosophical scene to build a Christian philosophy. In his work the bishop of Hippo used as much of the Neo-Platonist explanations as he could. In fact he used so much of their material, and especially their terminology, that some critics have doubted whether he did more than put a Christian veneer on a thoroughly pagan piece of philosophical furniture. It is now generally accepted, however, that St. Augustine reworked Neo-Platonist explanations as much as he could.

25 cf. Enneads, IV, 3, 21, "...the soul is said to be in the body in such a way as the pilot in a ship..." (Taylor, 237) and "...there is something of the soul in which the body is contained, and also something in which there is nothing of body; meaning by the latter those powers of the soul of which the body is not indigent." (Taylor, 238)

26 ibid., "...the sensitive power is present in the whole of the sentient organs." (Taylor, 238)

27 ibid., 23, "For in order to effect this perception the whole body is present as an instrument with the soul." (Taylor, 238)

28 ibid., 26, "...the soul must receive the judgment arising from the passion of the body." (Taylor, 243)

29 Plotinus speaks of the soul "directing its attention" (Enneads, IV, 3, 3; Taylor, 209) and of intellect "comprehending all things as genus comprehends species." (Enneads, V, 11, 6; Taylor, 189)

30 M.P. Garvey, St. Augustine: Christian or Neo-Platonist?, Marquette University Press, Milwaukee, 1939, 3-14
ism in a completely Christian spirit, retaining only so much of it as fitted in with Christian teaching.31

For Augustine sensation is a true knowledge of corporeal reality at which we arrive through a process shared by both the soul and the body.32 Following Plotinus, Augustine makes the proper act of sensation, (the actual perception), an activity of the soul alone and gives the body a merely passive role.33 In this passive role the body exercises no causality on the soul but only receives images of external objects which the soul then perceives.34 Augustine refused to allow the body any causal action on the soul because he held it as fundamental that no lower nature could effect anything in a higher nature.35

St. Augustine gives a sketchy treatment of sensation that is the

31 ibid., 239-240
33 De Musica, VI, iv, 7, "...quia et sentire et meminisse animae est," (Keeler, 19), and ibid., v, 9, "...videtur mihi anima, cum sentit in corpore, non ab illo aliquid pati, sed in ejus passionibus attenti agere." (Keeler, 20)
34 De Trinitate, XI, 2, "Ideoque non possimus quidem dicere quod sensum gignat res visibilis; gignit tamen formam velut similitudinem suam, quae fit in sensu, cum aliquid videndo sentimus." (Quoted in Knapke, The Scholastic Theory of the Species Sensibilis, Cath. Univ. Press, Washington, 1915, 20)
35 DeGen. ad Lit., XII, xvi, 33, "Nec sane putandum est facere aliquid corpus in spiritu, tanquam spiritus corpori facienti materiae vice subdatur." (Keeler, 19)
less satisfying since it contains a number of Aristotelian ideas that fit but poorly into the Platonic structure of the explanation. He tried to follow Aristotle on some points, but once he denied that the object had actual efficient action in the production of sense knowledge, he cut himself off from the followers of Aristotle. Without that basic tenet no explanation of sense cognition can be truly Aristotelian.

The Greek theory of sensation was transmitted to the medieval scholastics by Arabian philosophers as well as by St. Augustine. These eastern thinkers had contact with Aristotle through Syriac and Arabian translations and with Plato through Plotinus and his oriental satellites. Their psychology was further influenced by the physiological findings of the Arabian physicians.

Avicenna, subject to all three of these influences, expounded a philosophy of sensation that was an unusual mixture of Plato, Aristotle and Arabian physiology. He holds, for instance, the extreme dualism of body and soul common to Platonists, and at the same time defends such typically Aristotelian notions as that matter is the principle of individualization and that all knowledge of external reality must come through the senses.

Although Avicenna admits that all knowledge depends on sense knowledge, his neo-platonic leanings force him to refuse true efficient

causality to the objects of sense in actual sensation.\textsuperscript{38} The forces of nature, it is true, can cause qualitative change in the organs of sense.\textsuperscript{39} This physical change Avicenna explains after the manner of Aristotelian reception of forms, but with this important difference: the form is received \textit{in concreto}, with its matter and not, according to the true interpretation of Aristotle's teaching, without the matter but under the conditions of matter.\textsuperscript{40}

Avicenna speaks of sensible forms, the \textit{τύποι} of Aristotle but explains them as physical accidents of the organ of sense. Thus in sight, for example, the eye takes on accidents of color, size and appearance of the objects seen.\textsuperscript{41} These forms are diminutives of the object, that is they have the same figure and quality as the object but are reduced to fit into the optic nerve (in sight) or the other nerves of the various sense organs. Since the mutation caused by the reception of these forms is on the purely physical plane it cannot, according to Avicenna, be the cause of a psychic state. For that an immaterial agent is needed; Avicenna delegates this power to the soul which is, then, the true efficient cause of the actual sensation.\textsuperscript{42}

To show the influence of the Arabians on scholastic philosophers

\begin{itemize}
  \item \textsuperscript{38} Knapke, \textit{op. cit.}, 42
  \item \textsuperscript{39} DeBoer, \textit{op. cit.}, 140
  \item \textsuperscript{40} Knapke, \textit{op. cit.}, 39
  \item \textsuperscript{41} \textit{ibid.}
  \item \textsuperscript{42} \textit{ibid.}, 42
\end{itemize}
it will be worth while to insert here a sketch of the explanation of
sensation given by John de la Rochelle. Rochelle was one of the many
scholastics who attached considerable importance to the physiology of
sensation. In his *Summa de Anima* he explains the need for media and
tells us exactly how the senses operate.\(^{43}\) In his discussion of the
medium he makes it clear that the object really acts on the medium and
the medium causes a change in the sense.\(^{44}\)

It is obvious from this that Rochelle was acquainted with Aristotle's
position. Besides this he shows his knowledge of Aristotle's psychology
on many points. He gives, for example, an accurate account of the unity
of body and soul as matter and form of the same substance, man,\(^{45}\) and
declares that the soul has power to receive "*species spirituales in-
telligibiliter*" and "*similitudines corporales sensibiliter*".\(^{46}\) Again
of the powers of sensation he says, "*Vires tam animae quam corporis
dici possunt, quae ab anima in corpore fiunt nec sine utroque fieri
possunt*.\(^{47}\) All this is clearly peripatetic doctrine. But with this

\(^{43}\) *Summa de Anima*, (ed. Domenichelli), Prato, 1882, 257: "Necessarium
ergo fuit medium in quolibet sensu." He explains vision, (ibid.,
293), "Sensus enim visus recipit per actionem lucis speciem color-
is...Sensus enim fit per receptionem speciei similitudinis objecti
non per receptionem ipsius secundum essentiam."

\(^{44}\) ibid., 255, "Sonus...immutat aerem medium imprimendo ei suam
speciem," and (ibid., 257), "Medium immutatum immutat auditum."

\(^{45}\) ibid., 170, "Ex anima et corpore fit unum secundum substantiam,
quod est homo."

\(^{46}\) ibid., 132

\(^{47}\) ibid., 224
he also presents St. Augustine's theory of vision with no sign of disapproval.48

All in all John de la Rochelle gives us an unusual conglomeration of Aristotelianism and Augustinianism. Just why he included such contradictory explanations in the same work is not clear. Knapke thinks that he had too great a respect for authority and was unable to bring himself to make a choice between the traditional Augustinian doctrine and the tempting explanations of Aristotle newly received from the Arabians.49 Whatever the reason, his compromise is quite untenable; he is left with both horns of the dilemma. Sensation is passive and active. It is merely the reception of forms from outside and it is the going forth and abstracting of these forms from the object of sense. Surely here the last error is worst than the first, for in the final analysis John de la Rochelle has no theory of sensation.

With this we complete our sketch of the history of causality in sensation. We have seen the two classic doctrines of the Greeks, those of Plato and Aristotle, and we have seen the predominance of the former in Plotinus and Augustine. In Avicenna we saw the resurgence of Aristotle's theory, but even here the influence of Plato was too strong to be overcome. The result was that Avicenna held the basic Platonic stand on causality in sensation although he used Aristotle's explanation of the workings of sensation. In John de la Rochelle we saw the

49 op. cit. 79
same conflict with John taking no conclusive stand.

We have come to the point in the history of the scholastic theory of sensation when the stage was perfectly set for the complete reinstatement of Aristotle's explanation of causality in sensation. Up till this time scholastic philosophers had been trying to unite the doctrines of Plato and Aristotle into one theory. Now, however, they were taking more and more of Aristotle and less of Plato. Still they were afraid to take over Aristotle's theory bodily. They felt with Plato that no mere sensible object with its form immersed in matter could cause the psychic state that is sensation. Such a state is part of the activity of immaterial being and the gap between matter and spirit is too wide to be bridged by the activity of any material form. As time went on they had allowed greater activity to the object, it is true, yet none could allow the object sufficient power to bridge the gap between body and soul. It was left to Albert to re-establish a psychology that could bridge the chasm. The explanation of how he did it will be the burden of the rest of this paper.
CHAPTER II

SOME BASIC NOTIONS AND IMPORTANT TERMINOLOGY

Before we enter into a discussion of St. Albert's theory of causality in sense cognition, it will be profitable to study several ideas basic to his solution. It will be useful, too, to preface our discussion of St. Albert's explanation with a clarification of the terminology he uses when treating problems of sensation. Such a study will be doubly useful. First it will focus our attention on St. Albert's contribution to the scientifically exact vocabulary of the scholastic explanation of sensation. And secondly it will allow us to give a complete description of St. Albert's theory in the next chapter without constant backtracking to explain his terminology.

Perhaps the most conspicuous advance in scholastic language due to St. Albert was his clarification of the meaning of the words matter and form, and potency and act. Albert was one of the first scholastics to realize the true Aristotelian meaning of matter and form when applied to body and soul. He was the first scholastic to solve the problem posed by the peculiar nature of the human soul which can live apart from the body after death. The Arabian Aristotelians and probably Aristotle himself could not see how the soul as form of the body could continue in existence after its separation from the body. Earlier scholastics knowing from faith that the soul did live...
after the death of the body could not see how it could be immersed in matter as the form of the body. Albert solved the problem by attributing a kind of double nature to the soul. It is the motor of the body, and so it can exist apart from the body. It is also the form of the body and so gives life to the body.¹ He then explained how this can be:
The soul is not the motor corporis as a pilot is the navigator of a ship, but it is a mover that is a perfection of the thing moved in the very nature of that which is moved,² because body and soul are not two separate, complete entitles, as pilot and ship. Rather body and soul together form a single hypostasis.³ The soul can be called a substance only because it is the substantial form of the body.⁴

Once he accepted this correlation of matter and form for body and soul, Albert could and did reject the "rider on the horse" theory spon-

1 S. de Creaturis II, t.1, q.4, a.2, ed. by A. Borgnet, Vives, Paris, 1898, XXXV, 39, "...anima est actus primus...qui dat esse et speciem et rationem ei cuius est actus." Also, Summa Theologica II, t.12, q. 69, m.2, a.2 ad 2 & 3 (Vives XXXIII, 16), "Ad aliud dicendum quod animam considerando secundum se, consentiemus Platonis: considerando autem eam secundum formam animationis quam dat corpori, consentiemus Aristotelis:...anima quae est tantum actus corporis, sicut vegetabilis in plantis, et sensibilis in brutis...non separantur a corpore."
2 S. Th. II, t. 13, q.77, m.1 ad 5 (vives XXXIII, 70-71), "...dicendum quod ex motore et mobili ubi motor non est perfectio mobilis secundum esse naturae, sed ut nauta et navis se habent, et motor coeli se habet, numquam fit unum; ex motore autem et mobili ubi motor perfectice est mobilis secundum esse naturale, semper fit unum constitutionem ex utroque."
3 ibid., ad 4 (Vives XXXIII, 70), "...dicendum quod nec anima nec corpus est hypostasis perfecta, sed homo constitutus ex anima et corpore."
4 S. Th. II, t.12, q.69, m.1 (Vives XXXIII, 8-9), "Anima enim substantia est quia est substantialis forma animati."
sored by Platonists and Augustinians. No longer was he faced with a gap between body and soul that had to be bridged by some flimsy, spirit-like matter. Matter and spirit are parts of the same substantial unit. There is no need for a medium between them. Part can affect part simply because both are parts and not separate substances on different rungs of the ladder of being.

Albert further extended this fuller notion of matter and form to the sense faculties and the sense organs. The sense organ, according to our Dominican master, is the sense organ precisely because it is informed by the faculty. Faculty and organ are, then, one unit. Therefore they act as a unit with the result that any affection of the organ qua organ causes a change in the faculty. The practical conclusion St. Albert drew from this was that now the sense faculties could have communication with their objects. The object can stimulate the sense organ since both are extended and material. But since the

5 S. de Creat. II, q.2, a.1 ad 6 (Vives XXXV, 13), "...dicendum quod in corpore organico nulla forma specifica est ante animam. Caro anim non est caro, nisi per hoc quod est medium in sensu tactus. Similiter nervus non est nervus, nisi per hoc quod est organum animae influentis per ipsum corpori sensum et motum...et sic de aliis membris similibus et dissimilibus."

6 De Sensu et Sensato, t.1, c.5 (Vives IX, 10), "(Aristotelis dicit) visibile secundum esse spirituale et intentionale prius effici in aere, post in oculo, et moveri speciem rei visae ad interius oculi, ubi in humid crystallo est vis visiva...." Also, Liber de Apprehensione I, 5 (Vives V, 557), "Non credas sensibilia in animam agere, sed in organa corporum; quae quidem organa, quia animata sunt, motus sensibilium usque ad animam provenit."

7 S. de Creat. II, q.34, a.3 ad 5 (Vives XXXV, 303), "...sensus est susceptivum sensibilium specierum, hoc ipsum quod dico sensibilium supponit objectum sensus secundum actum, et hoc de ratione sui ponit praeuentiam materiae."
stimulus affects the sense organ qua sense organ it also affects the sense faculty, by reason of the unity of matter and form. With this explanation St. Albert cut the Gordian knot that his predecessors had tried vainly to loose. They had labored at the futile task of trying to discover a medium between body and soul, between the sense organ and its faculty; he came along and showed that such a medium was not necessary.

St. Albert likewise put stronger emphasis on the Aristotelian doctrine of act and potency than had previous scholastic philosophers. This notion, too, he applied to sense cognition. According to the doctrine of the Stagirite revived by St. Albert, the sense is a passive potency, but one that has an operation once it is reduced to act.\(^8\) This reduction to actuality from potentiality is effected by sensible objects mediately through the sense organ and the exterior and interior mediums of ether, air, water and flesh.\(^9\) This process is not the usual physical change from black to white or hot to cold as many of the earlier philosophers, especially the Arabians, thought.\(^10\) Rather it is a change

\(^8\) ibid., q.34, a.1 (Vives XXXV, 295-296), "...sensus est potentia passiva ...sed sensus completus per actum speciei sensitivae judicat et agit."

\(^9\) ibid., ad 3 (Vives XXXV, 296) "Sed faciens sensibilia in actu colores sensibiles, et motus fractivus aeris facit actu sonos et vaporativum in mixto odoriferro facit actu odores, humdatum autem secundum actum penetrativum est ad nervum gustativum, et lingua facit actu sapores; qualitates autem tactus per seipsas agunt in tactum. Et propter hoc activum sensuum non potest esse in potentiiis animae."

\(^10\) ibid., corp. (Vives XXXV, 295), "Sensus dicitur potentia passiva non quod recipiat formam quae transmutat substantiam suam in substantiam secundum esse, sed potius transmutatur in speciem sensibilem secundum intentionem."
from privation to habit. By this he means that the sense receives a form not in place of a previous form as when a colored object receives a new color, but acquires a form where before it had no form. With this new form it is then reduced from a state of potency to one of actuality, from potential sensation to actual sensation. In this new condition it has its proper operation—here the judicium sensus, the consciousness of the object. Since the sense receives this form by being acted upon by the object of sense, Albert says that sensation is primarily a passio, and that the faculty is primarily passive. Here again, however, we must distinguish between a proper passion, as the change from white to black and the passion in sensation which is, as we said above, a change from privation to habit.

Another point on which St. Albert adds much to the explanations of earlier scholastics is his distinction of the form in sensation according to its threefold existence, in the object, in the medium, and in the sense. A confusion of these three stages had made it almost impossible for scholastic philosophers before Albert to solve the problems of sensation. These earlier thinkers seemed to believe that the form of the object existed physically in the medium and in the sense as well as in the object. Obviously this created difficulties. The prime objection to such an explanation was that it made the sense organ the object of sense since, according to this, the form of color in sight

11 ibid., q. 21, a. 5 ad 105 (Vives XXXV, 210), "...alteratio vero sensuum est de privatione in habitum."
12 cf. supra p. 20 n. 8
13 cf. supra p. 20 n. 11
would be in the eye as an accident of the eye. If this caused sensation, it should be the object of sensation, for it is the first formal, physically existing color with which sight comes in contact. It is not at all clear how it could be otherwise. A colored thing, here the eye, could hardly be the medium to another colored thing, the external object. If anything, it should obstruct the vision of other colored things. 14

Albert avoided this difficulty by following Aristotle in giving the form a triple existence—-in the object, in the medium and in the sense. It is in the object materialiter, that is, as physically informing the matter of the object. 15 Thus, for instance, the color of a wall is in the wall materialiter—the wall is formally colored; it has all the concomitant effects of coloredness, i.e. it can be seen, it can reflect light, and so forth. The sensible form is in the medium according to a second mode of existence, which St. Albert calls sensibilitier. 16 In his use of this term our author wishes to point out that the form is passing from the object to the sense; there to cause

14 S. Th. II, t. 11, q. 51, a. 1 (Vives XXXII, 537), "Et ex hoc procedit Avicenna, quod si lux est corpus, vel defluxus corporis; aut illud corpus est luminosum, aut pervium...Si autem sunt luminosa corpora illa; tunc quanto magis densantur, tanto magis impedunt visum...so quod tegunt omnia quae sunt post ipsa." Cf. A. Schneider, Die Psychologie Alberts des Grossen, in Beiträge die Geschichte die Philosophie, Munster, 1903, 101
15 S. de Creat. II, q. 34, a. 2 ad quaest. (Vives XXXV, 300), "...discedum quæd in veritate in tribus sensibus qui sunt per medium extrinsecum, sensibile aliud habet esse in objecto, et in medio, et in sensu. In objecto enim habet esse materiale: in sensu autem habet esse spirituale tantum in medio vero sensibile."
16 ibid.
cognition, and does not make the medium colored. If it did, it would block vision rather than help it, as we noted earlier. The form is, then, transmitted along the medium without becoming a physical accident of the medium. The sensible form has its third mode of being in the sense proper. There, according to Albert, it exists spiritualiter or intentionaliter, by which he means that the sense has in itself a representation or species of the object. Thus in sight the eye is not physically colored but is assimilated to the object through a representation. This representation itself is called the species sensibilis.

Albert also notes this distinction of materialiter, sensibiliter, and spiritualiter to show he realized the triple stage of the form in sensation, but he himself seldom bothers to be exact in his own use of

17 ibid., "...aer habens colorem ut medium non agit actione materiae secundum colorem: quia nihil colorat." Also S. de Creat. II, q.21, a.5 (Vives XXXV, 209), "Dico aptitudinem recuperandi (formas) ut deferens recuperat et non ut recuperat tenens. Et hoc est quod volunt quidem dicere, quod visibilia sunt in medio ut in potentia motus et non ut in termino et actu."

18 S. de Creat. II, q.45, a.2 (Vives XXXV, 414), "Sensus in actu est species sensibilium: et haec tamen species nihil est de esse materiali et naturali rei sensibilis, sed est similitudo illius generata ab illa, et per similitudinem quam habet cum re sensata ducit in illam." Also, II De An., t.4, c.1 (Vives V, 293), "...sensus accipit uniuscunque sensibilium speciem...non in quantum unaquaeque sensibilium est unumquodque sensibilium secundum esse materiae sed in quantum unumquodque illorum est in esse intentionalis et secundum rationem." Cf. supra p.22, n.15

19 S. de Creat. II, q.21, a.5 (Vives XXXV, 210), "...oculus habet speciem visibilis ut habitum vel dispositionem, quae est principium cognoscedi rem visam."

20 cf. supra note 18
the latter two. Frequently he uses spiritualiter and sensibiliter interchangeably. In the same way he notes that the form is really and truly only in the object; in the medium and in the sense there is only a species or similitudo, yet these three, too, he uses indiscriminately.

This finishes our chapter on the more important advances in idea and terminology made by St. Albert. With clear notions of these terms and concepts we can now proceed to Albert's explanation of causality in sensation and attempt to determine what contribution he gave to the scholastic theory on this point.

21 cf. Schneider, 90; also II De An., t.3, c.6 (Vives V, 242), "Et non unius rationis est esse quod habent in ipso medio, quia spiritualius esse est coloris in medio quam soni; et iterum spiritualius esse est soni in medio quam odoris."
CHAPTER THREE

CAUSALITY IN EXTERNAL SENSATION

ACCORDING TO ALBERT

In the previous chapter we have noted that St. Albert advanced the scholastic theory of sensation with certain clarifications of thought and expression. We showed there that he re-established the Aristotelian concepts of act and potency, matter and form, and the passive nature of sensation. It would be a mistake, however, to think that St. Albert was completely free from the influence of St. Augustine and the Platonist scholastics who followed him. In Albert's writings there are many vestiges of Augustine's thought. These are, as a matter of fact, so numerous that many present-day writers, following Schneider, have declared that Albert merely juxtaposed the doctrines of Aristotle, Augustine and the earlier scholastics without making any attempt to weld them into a unified whole. Schneider in the first modern study of Albert's psychology states that it was a mere hodge-podge of Augustine, the Fathers, Plato and Aristotle.\(^1\) This theory has been sponsored by such men as DeWulf\(^2\) and Brett\(^3\), more, it would seem, on Schneider's word than on any independent investigation.

\(^1\) Schneider, 4-5
\(^2\) DeWulf, I, 397, 401
of their own. More recently, however, two Dominicans, Wilms\textsuperscript{4} in Germany, and Reilly\textsuperscript{5} at the Catholic University of America, have made new investigations and have decided that Schneider greatly exaggerated the heterogeneous composition of Albert's philosophy. These authors have pointed out that in some instances Schneider failed to distinguish Albert's explanations of the theories of other philosophers from his criticism of them. Albert's procedure, they tell us, varies with the type of work that engaged his attention. Unlike St. Thomas, Albert merely paraphrased the doctrines of the authors on whose works he commented. In all his remarks in these works he takes the viewpoint of the authors in question.\textsuperscript{6} In his commentary on the Politics of Aristotle he states explicitly that his only purpose in writing such commentaries is to outline the theories of these earlier philosophers without committing himself to a defense of their positions. He states this quite vigorously\textsuperscript{7}:

\begin{quote}
Non ego dixi aliquid in isto libro, nisi exponendo quae dicta sunt, et rationes et causas adhibendo. Sicut enim in omnibus libris physicis, numquam de meo dixi aliquid, sed opiniones Peripateticorum quanto fidelius potui, exposui. Et hoc dico propter quosdam inertes, qui solatius suae in-rtae quaerentes, nihil quaerunt in scriptis nisi quod reprehendant; et cum tales sunt torpentes in inertia, ne soli torpentes videantur, quaerunt ponere maculam in electis. Tales Socratem occiderunt. Platonem de Athenis.
\end{quote}

\textsuperscript{4} H. Wilms, \textit{Albert the Great}, trans. by A. English, Burns Oates and Washbourne, London, 1933, 82
\textsuperscript{5} G. Reilly, \textit{The Psychology of St. Albert the Great}, Cath. Univ. Press, Washington, 1934, 54
\textsuperscript{6} \textit{Ibid.}, 55
\textsuperscript{7} \textit{In VIII Politica}, note ad fin. (Vives VIII, 803-804)
in Academiam fugaverunt, in Aristotelem machinantes etiam sum exire compulerunt...

In some commentaries, however, as in his DeIntellectu et Intelligibili, St. Albert included doctrines of Plato which he thought did not contradict Aristotle's opinions. Sometimes these doctrines are not as consonant with peripatetic philosophy as Albert seemed to believe and so we have a juxtaposition of explanations mutually exclusive. Wilms seeks to lessen the blame for this by emphasizing Albert's desire to get the whole truth and his consequent reluctance to reject anything which might in some way complement the Aristotelian explanation.

As a result Albert's works do include strong traces of Platonic and Augustinian influence. The authority of the bishop of Hippo and Plato forced Albert to weigh their opinions carefully. In doing this he accepted some and "interpreted" others in such a way as to bring them into agreement with those of Aristotle. At other times instead of reconciling the two he merely juxtaposed conflicting explanations.

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8 DeIntellectu et Intelligibili, c.1 (Vives IX, 478), "Quaecumque vero hic inquifenda esse videntur quantum per demonstrationem et rationem investigare poterimus, tractabimus sequentes principis nostri vestigia ...Interdum etiam Platonis recordabimur in his in quibus Perpateticorum sententiis in nullo contradicit." This work was written by Albert to fill a supposed gap in the works of Aristotle. As such it is a commentary on a work that was never written. Albert took the doctrines in it from Aristotle's other works.

9 Reilly, 55
10 Wilms, 82
11 ibid., 70
12 Reilly, 55
Since it is not within the scope of this paper to give a complete study of St. Albert's philosophy, we need not concern ourselves with the success or failure of Albert's general synthesis of philosophy. Still we must note two points and decide whether Albert followed Aristotle or Augustine and Plato in his explanation of them, for they are key doctrines in the explanation of causality in sensation.

We showed in the last chapter that Albert held the Aristotelian theory of matter and form as applied to soul and body. Aristotle, however, was not clear on personal immortality, and many thinkers could not see how in his system the form of the body could exist apart from the body. Similarly they failed to see how a purely spiritual process such as intellection could be performed by a soul that was the form of a material body. And the soul must be the form of the body for the followers of Aristotle. The objectors proclaimed that a form thus "immersed in matter" could have no purely spiritual activity and so could have no reason for being immortal. To meet this dilemma Albert said that the soul was more than just the form of the body; it was, as Plato said, the motor corporis, and as such had a certain reality in itself. 13 Perhaps this was not the clearest way to explain the peculiar nature of the human soul, but the idea Albert wanted to convey with this expression was certainly a legitimate extension of the Aristotelian position. Albert retained the basic notion that the soul was

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13 S. Th. II, q.69, m.2, a.2 sol. (Vives XXXIII, 16), "...ita anima duplicem debet habere definitionem: unum quod operatur vitae in corpore et in organis ejus...alia definitio est quae datur de anima secundum se...maxime secundum quam partem opera vitae operatur in seipsa;" cf. Wilms, 70
the form of the body while adding the equally essential idea that the soul does not exhaust its complete reality in this information.

This is of some importance to us because the soul must be the form of the body if we are to have the interaction of the two necessary for the Aristotelian explanation of sensation. If Albert had taken over the complete Platonic notion of soul he would have had to face the same problem that puzzled his predecessors: the problem of the causality of matter on spirit. This would have been a difficulty for him, because then he would have had the same gap between body and soul that is postulated by every Platonic explanation. Following Aristotle, St. Albert could use the substantial union of body and soul as matter and form to close the chasm that others had to bridge.

A second instance of St. Albert's use of Augustinian language that we must consider is that of his adoption of a "medium" between body and soul. At first sight this would seem to show that Albert did feel that there was a gap between body and soul that he had to bridge in some way. Closer inspection, however, shows us that Albert's "medium" between the two is in some instances a quality of the nerve fibers and in others something roughly corresponding to the hormones of the endocrine glands of modern biology. The truth of this interpretation is manifest from the numerous places where St. Albert says that this "medium" is a spiritus, and that the spiritus is something very

14 S. de Creat. II, q.78, (Vives XXXV, 637)
15 S. Theol. II, q.7, m.2 (Vives XXXIII, 73)
definitely corporeal. In his own words: \( ^{14} \) "Generale medium est spiritus qui secundum medicos est medium inter aerem et ignem..." And again in sensations: \( ^{15} \) "...non debet intelligi de spiritu qui sit spiritualis substantia et anima vel parte eius, sed de spiritu qui defert formas sensibles ab organis sensuum ad animam, quem probat Avicenna esse corpore..." What is more, this medium does not exist to unite the soul and body, but only to mediate the activity of the soul throughout the body. \( ^{16} \)

So it would seem that Albert is dealing with the physiology of the body and showing how many of its activities are not regulated directly by the soul, but rather through the activity of nerves and hormones, as we would say today. This is confirmed by the phrase "according to the physician" with which Albert explains the nature of the general medium of the soul's operations in the body. \( ^{17} \) Really, then, St. Albert has transformed the medium as known to Augustine and earlier scholastics and has reduced it to a merely physiological factor in the vital operations of the human composite. As such it fits in perfectly with the Aristotelian explanation of the body-soul relationship. \( ^{18} \)

We have tried to clarify the problem of a medium between body and soul, because it reflects on the problem of the union between the two. If Albert admitted a medium in the Augustinian sense, he would have shown that he did not understand his own doctrine of matter and form, and he would once more have been faced with a gap between body and soul---

\( ^{16} \) S. de Creat. II, q. 78 (Vives XXXV, 637), "anima sine medio est in corpore sed non sine medio operatur."

\( ^{17} \) ibid., cf. p.28 note 13

\( ^{18} \) Reilly, 18
the recurrent Platonic problem.

It has been necessary to dwell on these fundamental issues for with false explanations of these one could give what would seem to be a completely Aristotelian explanation of the mechanics of the sensitive process and still not admit the basic Aristotelian notion of the continuity of the causality from object to sense faculty. Whether Albert did follow out the Aristotelian explanation we shall see in a moment. We have seen already that, if nothing more, he had the necessary foundation for the correct answer in the Aristotelian substantial union of body and soul as matter and form. We insist the more on this because certain Arabs seemed to have followed Aristotle, yet they could never realize the import of the substantial union of body and soul. The result was ever the same, they always left a gap to be bridged, and in every case they failed to span it. So, instead of postulating intercausality of body and soul, they made the bodily changes the occasion of sense cognition, never its cause.

As a matter of fact, however, Albert did follow Aristotle in his whole theory of sensation. Schneider notes that our saint used scientific discoveries of the Arabians, but that he followed Aristotle most closely just on those points where the Arabians departed from the Stagirite's doctrine.19 A description of St. Albert's theory of sensation

19 Schneider, 88
will show the truth of this remark.

The object of sense according to St. Albert is the sensible thing existing outside the sentient subject. Thus, the object of sight is the colored thing really existing in the external world. So, too, the other senses have external objects: sound for hearing, odors for smell, savors for taste, and tangible qualities for touch. Albert had no time for philosophies that spoke of material reality as a world of shadows and faint representations of a higher, truer reality. And not only did the objects of sense exist outside the subject of sensation, but they were of themselves capable of causing a knowledge of themselves in animals and men. They took an active part in sensation, generating species in the sense, and so causing perception. They are not in any way acted upon by the sense.

20 I de An., t.2, c.8 (Vives V, 164), "Sensus qui est motus sensibilium specierum est pertingens ab exterioribus usque ad animam." Also S. de Creat. II, q.34, a.1 ad 3 (Vives XXXV, 296), "...actus sensuum non potest esse in potentia animae."
21 II de An., t.3, c.7 (Vives V, 245), "...objectum cujus dicitur esse visus ut propria causa inferens sibi passionem, ...dicitur visibile; visibile autem est color."
22 For hearing, S. de Creat. II, q.24, a.1 (Vives XXXV, 233), "sonus... dicitur qualitas sensibilis sensus auditus." For smell, ibid., q. 31 (Vives XXXV, 271), "Cum objectum (olfactus) sit unum, scilicet odor, unius rationis erit olfactus." For taste: ibid. II, q.32, a. 2 (Vives XXXV 274), "...gustus...est judicium saporum." For touch: ibid. II, q.33, a.1 (Vives XXXV, 282), "...tactus est... tangibilium judicium."
23 cf. Wilms, 72
24 S. de Creat. II, q.22 ad 8 (Vives XXXV, 225), "...motus immutationis est motus eorum (colorum) quo generant se primo in medio et postea in oculo."
25 ibid. II, q.45, a.4 (Vives XXXV, 417), "...organa sensuum tantum pati in sentiendo et nihil agere nisi per accidens." Cf. supra p.20 n.9
Sensible objects, however, except those of touch, act in conjunction with certain dispositions of their media in this process of causing sensation. Thus color and light unite to cause vision in the eye, sound and a certain motion of the air, to cause hearing, and so forth. Albert calls this union of light and color a union "as of matter and form." For, he tells us, color exists materially in the object until acted upon by light; then it has formal existence as color. In this he claims to follow Aristotle who makes "Color secundum actum lucidi" the object of sight. Albert concludes from this that light makes color visible because "actus lucidi lumen est, et hanc nequaquam dicet esse coloris naturam, nisi aliquo modo daret ei esse et speciem." The object, once actuated by this necessary disposition of the medium generates a representation of itself in the medium and the sense. As we noted above, St. Albert includes all the senses except touch in this explanation. Tangible qualities, the object of touch, act of

26 ibid. II, q.34, a.1 ad 3 (Vives XXXV, 296), "Sed faciens sensibilia in actu in rebus est, sicut lux facit actu colores sensibiles, et motus fractivus aeris facit actu sonos, et calidum vaporativum in mixto odorifero facit actu odores, humidum autem secundum actum penetrativum est ad nervum gustativum, et lingua facit actu sapores: qualitates autem tactus per seipsas agunt in tactum."

27 ibid. II, q. 21, a.3 (Vives XXXV, 200), "...color enim secundum actum cum lumine quo agit unum visibile est; sicut materia et forma non faciunt duo, sed unum: et ideo cum lumen illud sit ut forma, color autem ut materia, erit ex illis duobus unum visibile secundum actum."

28 ibid. II, q.21, a.1 (Vives XXXV, 188), "Color habet duplex esse, scilicet materiale...et esse formale secundum quod ipse movet sensum. ...Color est visibilis non omni modo, sed in ratione formalis, hoc est per actum luminis, qui dat ei actum et speciem secundum quod potest agere in visum."

29 ibid.

30 ibid., (Vives XXXV, 189)

31 cf. p.23 n.18
themselves on their proper sense organ, the flesh. 32

St. Albert noted the obvious fact that sensibile objects are not always in contact with the sentient subject. The colored object may be yards from the eye that sees it; the sound of a bell may be heard for miles. Odors, too, may float in from a distance. Noting this, Albert, treated the question of media quite thoroughly. First he divided them into two classes, exterior and interior. Exterior media are air and water; interior media are flesh and what he called "humidum aqueum". 33 In sight air and water convey the sensible from the object to the eye. They are not, however, media by virtue of their own natures but only insofar as they share in the diaphanous quality of light, a participation of the famous "fifth essence". 35 Air and water are also media for sound. 36 Air, besides being the medium for sound, is also the subject in which it exists. 37 Sound, according to Albert, is "a sensible quality arising from the breaking movement of air, and existing

32 S. de Creat. II, q.33 a.3 (Vives XXXV, 290), "...tactus pertingit ad partes carnis et cutis."
33 ibid. II, q.21, a.5 (Vives XXXV, 204), "(in visu) aer et aqua sunt medium;" ibid. q.25 (Vives XXXV, 253), "Sonus duplex habet medium scilicet aerem et aquam;" ibid., q.30 (Vives XXXV, 270), "Odor est in aqua et in aere ut in medio;" ibid., q.32 a.4 (Vives XXXV, 280), "Medium in gustu est humidum aqueum;" ibid., q.33, a.3 (Vives XXXV, 290), "...caro quamdam rationem habet medii."
34 Cf. note 33
35 S. de Creat. II, q.21, a.5 (Vives XXV, 204-205), "Aer et aqua sunt medium...non secundum quod aer et aqua...(sed ex) natura in qua communicant aer et aqua cum perpetuo superius corpore."
36 cf. note 33
37 S. de Creat. II, q.36 (Vives XXXV, 252), "Aer enim est medium et materia in quo generatur sonus, et sine quo non est ejus esse. Aqua vero est medium tantum."
with that movement." 38 Once the movement stops, sound stops. 39

Odors, like color, are qualities of external bodies. 40 They too have air and water for media in which like color they do not exist formally. 41 Taste and touch are sensed through internal media, in taste the \textit{humidum aqueum}, and in touch the flesh. 42 The sensibles of taste and touch are in the media in the double sense in which sound is in air, that is as in their natural subjects and as in the medium \textit{qua} medium. 43

Thus, for all the senses there are media and for all the senses there are the species existing in the media. 44 This is what Albert means when he says that the sensibles are in the medium \textit{qua} medium. Strictly speaking, this would not be necessary, since there is no reason why the quality physically existing in the medium could not cause its representation directly in the organ. Nonetheless Albert follows Aristotle and the physiologists in positing the existence of the species in the medium. 45

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38 \textit{ibid.}, II, q.24, a.1 (Vives XXXV, 233), "Dicimus ergo, quod sonus est qualitas sensibilis, proveniens ex fractione aeris, et ens cum illo."

39 \textit{ibid.}, "...sonus non habet esse nisi quamdiu durat motus ille."

40 \textit{ibid.}, II, q.26, a.5 (Vives XXXV, 265), "Dicimus...quod sapor et odor sunt sequelae complexionum corporum odorantium."

41 \textit{ibid.}, II, q.30 (Vives XXXV, 270), "Odor est in aere et aqua ut in medio

42 \textit{cf. supra p. 34 n. 33}

43 \textit{S. de Creat.}, II, q.32, a.4 (Vives XXXV, 280), "...(humidum aqueum) est medium et materiae et non medium tantum;" \textit{ibid.} II, q.34, a.2 (Vives XXXV, 301), "Duo autem sensus qui sunt per medium intra, habent sensibilia quae actu sunt...in medio."

44 \textit{II de An.}, t.4, c.4 (Vives V, 297), "...sed tamen medium non agit in organum nisi esse intentionale."

45 \textit{ibid.}
St. Albert makes clear that the sense receives the sensible species without the matter of the sensible object or the matter of the medium. With his explanation of the special type of existence the sensibles have in their media, he has already detached the sensible form from its matter. It is no longer a form informing matter---at least it is not a form only informing matter. It has a "spiritual" existence of some sort. Since it is already thus detached from matter it is not received into the sense organ as whiteness is taken in by a wall. The sensible comes in according to the new mode of being, one connected especially and specifically with the cognitive function. Just how we can better explain this I do not know. We know that the form is still under the conditions of matter so it is singular and not universal. We can hardly give a fuller explanation.

When asked how material bodies had the power to effect this unusual change in the medium and the organ, St. Albert brushed the question aside as irrelevant, comparing it to one's asking why light shines.

46 cf. supra p. 34 n.37 and n.43 on the preceding page.
47 We use spiritual here in the sense that Albert notes it in his Summa de Creaturis II, q.21, a.5 (Vives XXXV, 209), "...non vocat esse spirituale a spiritu qui est anima sed a spiritu qui est corpus."
48 II de An. t. 4, c.1 (Vives, V, 293-294), "...sequitur quod primum sentiens cum est in actu, est tale quale quidem ipsum sensibile: sed alterum est esse ejus hinc et inde secundum quod est in esse intentionalii actus sensus."
49 ibid., "Primum autem quod communitur convenit omni sensui secundum quod est sensus, est quod omnis est in gradu illo apprehensionis quod accipit speciem sensibilem sine materia, materia tamen prae-sente."
50 ibid., t.3, c.6 (Vives V, 241)
...concedendum esse videtur, quod aliquando et in quibusdam sensibus qui scilicet sunt per medium extrinsecum, sensibile secundum alium esse est in re sensata, et secundum alium esse in medio et organo: sed hoc esse in nullis pluribus sensibus est unius rationis. Et si quaeritur quid conferat ei hoc esse? videtur mihi stulta quaestio, quia nos superius ostendimus omnem virtutem activam esse per se perfectam ad agendum, sine aliquo moto extrinsecus et ideo dico quod forma sensata per seipsam generat se in medio sensus secundum esse sensibile, cuius necessaria demonstratio est, quod ab omnibus Philosophis et ab ipsa veritate convincitur, per se sensibile esse, quod in secundo modo dicendi per essentiam suam est causa sui esse sensibilis et ideo frustra quaeritur quid conferat ei illud? sicut si quaeritur quid conferat luci lucere secundum actum?

Albert makes it clear that the medium and the faculty must be so constructed that they can receive the forms of sensible objects because act and potency are correlative. The act can always actuate but it can actuate only such things as are made to receive the act. In Albert's words. 51

...sicut saepe diximus, non quaelibet passiva vel passibilia recipiunt actus activorum quorumlibet; sed actus sensibilium recipiunt quaedam passiva secundum quod harmonice sunt sensitiva eorum.

And again: 52

...notandum ergo ad hoc quod aliquid sit sensibile per se et proprius...exiguntur...quod substantia sensus illius organi aptanata sit pati ab illo et non ab alio; sicut visus colorum est, quem non contingit sentire per

51 ibid., t.4, c.2 (Vives V, 294-295)
52 S. de Creat. II, q.34, a.2 (Vives XXXV, 299)
This correlation of potency and act is the final answer which St. Albert gives when asked how sensation is possible.

St. Albert does not seem to have thought that sensation took place in the end organs of the various senses. Rather he localized the faculties in various parts of the brain and, for taste and touch, near the heart as well as in the brain. The act of seeing, for example, is completed, according to Albert, in the front part of the cerebrum:

...virtus visiva secundum sui perfectionem est in anteriori parte cerebri, sed secundum progressum ad perfectionem est in nervo optico et spiritu visibili qui discurret in illo: et sic nihil prohibet quin vis visiva diversimode considerata diversa habet instrumenta, sicut etiam una vis visiva habet duos oculos.

Hearing is situated in "anteriori parte medullae cerebri." Smell is rooted in the anterior of the cerebrum along with sight. Taste, as we mentioned, has a double seat, "uno modo quod est judicium saporum et sic nervus gustativus principiatur a cerebro...alio modo secundum quod est sensus alimenti...habet instrumentum circa cor". Touch is similar to taste in this:

Cum enim tactus sit sicut forma corporis animati...percepit quidquid immutat cutem quoad hoc principalitur tactus est in corde... Secundum autem quod tactus est judicium tangibilium sic principiatur...in cerebro.

53 ibid., II, q.19, a.1 ad 3 (Vives XXXV, 166)
54 ibid., II, q.23 (Vives XXXV, 229)
55 ibid., II, q.28, a.1 (Vives XXXV, 256)
56 ibid., II, q.32, a.3 (Vives XXV, 279)
57 ibid., II, q.33, a.3 (Vives XXXV, 289-290)
In St. Albert's psychology of sensation the psychic element is added to sensation when the species reach the seat of sensation. There, too, the sense is completely reduced to act and posits its proper operation, the perception of the sensible object:58

...dicimus enim quod nullius sensibilis judicium perfectur in organo proprii sensus qui recipit illud sensibile, sed omnes particulares nervi qui ad organa propriorum sensuum diriguntur, ... diriguntur ad anteriorem partem cerebri...

Concerning the nature of the species in sensation insofar as it is a representation, St. Albert agreed with Aristotle and held the interpretation which St. Thomas was also to take up. The species in sensation is a means to the cognition of something else. It is not, then, that which is known but that by which something else is known.59 In the language of St. Thomas and later scholastics it is a medium quo and not a medium quod.60

The reason for this stand is similar to that proposed for the nature of light, which we discussed earlier.61 St. Albert declared that light was not a body but a quality that made air and water transparent. It was "pervium" because if it were not it would block vision rather than help it, since it would be seen instead of the object. So too the species must be a medium quo lest it block cognition by becoming the thing which is perceived. St. Albert does not give a

58 II de An, t,r, c.11 (Vives V, 310)
59 S. de Coerat. II, q.45, a.2 (Vives XXXV, 414); cf. supra p.23 n.18
60 cf. S. Thomas, De Sensu et Sensato, lect. 4
61 cf. supra pp. 32-33
thorough treatment of this problem but simply notes that the object of vision is the colored thing (and so for the other senses) and that the species is a representation that leads to the knowledge of these objects.

This description of St. Albert's theory of external sensation is enough for our purpose. From it we can see clearly enough what he considered to be the cause of cognition in external sensation. We have attempted to answer in the above description the question we put at the beginning of our discussion: "What causes sense cognition?"

Obviously, according to St. Albert, the sensible object existing objectively in the external world is the efficient cause of the sensible species, which in turn cause sensation by reducing the faculty from potency to act. We have seen that Albert said explicitly that:

"(visibile) speciem sui generat in medio et in organo..."62 And again, "...dicendum quod organa sensuum tantum pati et nihil agere nisi per accidens..."63 Once more, adding a bit on the nature of the species:

"dicendum quod in veritate species sensibiles generantur in organo sensus...et haec tamen species nihil de esse materiali et naturali rei, sed est similitudo illius generata ab illa, et per similitudinem quam habet cum re ducit in illam."64

In this we see that the causality proceeds link by link from the object, through the medium, to the sense organ. This much many pre-
vious philosophers had admitted. What they did not admit was that the sensible species in the organ could exert any causal influence on the faculty. St. Albert came to this juncture and decided to follow Aristotle all the way. So, leaving behind the earlier scholastics, he admitted causality from the sense organs to the faculties. This is the reason why he said: "sensus completus per actum species sensitivae judicat et agit." Again he admitted that the sense faculty is passive when he said explicitly: "sensus est potentia passiva." In neither of those places does he limit the causal influence to the body. In both it is simply sensus; it is not corpus or organum.

From all this we can say with certainty that St. Albert did re-establish the Aristotelian notion of causality in sensation. For him as for the Stagirite, the object is active, the subject passive until informed by the sensible species. With Aristotle, St. Albert depends on the substantial union of matter and form to close the gap between body and soul that had made other philosophers take refuge in occasionalistic theories of sensation. Albert has in very truth taken over the whole Aristotelian structure. All that remains for us is to compare Albert's answer with that of St. Thomas. Such a study will show us how much of the complete scholastic theory we owe to St. Albert and how much his famous pupil added to his explanation.

65 ibid. II, q.34, a.1 ad 2 (Vives XXXV, 296)
66 ibid. II, q.34, a.1 (Vives XXXV, 296)
CHAPTER FOUR
EVALUATION AND CONCLUSION

In the previous chapters of this paper we have traced the development of the scholastic theory of causality in external sensation from Plato and Aristotle down to St. Albert the Great. In this outline we saw the two tendencies, Platonic and Aristotelian, each struggling to supplant the other. The Platonic explanation seemed to be the more widely accepted right up to the time of St. Albert the Great. Certain details of the peripatetic theory were accepted, but the complete adoption came only with St. Albert.

Now in this last chapter we shall test Albert's solution in the light of St. Thomas Aquinas' doctrine, and with this we can decide how much of the complete scholastic theory Albert had. Our task in this is rather simple, for Albert's famous pupil has taken over his master's doctrine with hardly a change. As we might expect, Thomas is more interested in the metaphysics of sensation than in the physiology of the process, with the result that he treats the strictly philosophical problems more explicitly than Albert and spends little time on the physiological side of the question. 1 This, however, is more a differ-

1 The only places where St. Thomas gives any extensive treatment of sensation are in his commentaries on Aristotle's De Anima and De Sensu et Sensato. In his Summa Theologica he treats sensation in two articles of a single question (I, q.78, a.3 and 4). In the De Veritate there are a few passing references to sensation.
ence of emphasis than anything else, so it does not deny the correctness of Albert's explanation.

It is a simple matter to show how closely St. Thomas followed Albert since the two agree on all the main issues concerning sensation. Both have the same Aristotelian foundation. Thomas, like Albert, bases his psychology on the classic notions of potency and act and matter and form. Thus the soul for the Angelic Doctor is the form of the body, yet it is more than a mere corporeal form. As such it has two sets of capabilities, those it uses with the body and those whose operation is independent of the body. Of the former the sensitive powers are highest and most noble; the latter are the faculties of the intellectual part of the soul.

Sensation itself is for St. Thomas what it was for Albert, a mode of cognition inferior to intellection. It is an activity of the human composite of body and soul. Thomas, more than Albert, emphasizes the unity of the act of sensation. Albert, more concerned with the physio-

2 S. T. I, q. 75, a. 1 ad 4, "Humana anima non est forma in materia corporali immersa, vel ab ea totaliter comprehensa, propter suam perfectionem; et ideo nihil prohibet aliquam ejus virtutem non esse corporis actum, quamvis anima secundum suam essentiam sit corporis formam."

3 ibid., corp., "Unde intantum sua virtute excedit materiam corporalem, quod habet aliquam operationem et virtutem in qua nullo modo communicat materia corporalis, et haec virtus dicitur intellectus;" ibid., q. 84, a. 6, "Sed (Aristotelis) sensum posuit propriam operationem non habere sine communicante corporis, ita quod sentire non sit actus animae tantum, sed conjuncti."

4 ibid., q. 77, a. 4, "Secundum igitur primum potentiarum ordinem (i.e. perfectionis) potentiae sensitivae... sunt priores potentiiis animae nutritivae;" for intellect cf. note 3.

5 cf. S.T. I, q. 78, a. 3

6 cf. note 3
logical problems of sensation, gave long explanations of the bodily process, almost taking for granted the role of the faculty in sensation. It is certain, however, that he did think of sensation as a unified whole, even though he seemed to separate the parts in his discussion.\footnote{7}

The sense for both is a passive potency which has actual sensation only when it is informed by the activity of the objects of sense.\footnote{8} These objects are actually sensible, that is, they are able of themselves to reduce the sense from potency to act.\footnote{9} This reduction takes place through the reception of the sensible form in a passive way.\footnote{10} Still the faculty is not completely passive for Thomas any more than it was for his teacher. Both agreed that the sense, once informed, posits its proper operation, the \textit{judicium sensus}.\footnote{11}

Thomas like Albert held five external senses: sight, hearing, smell, taste, and touch.\footnote{12} The objects of these senses are physically existing bodies possessed of full reality apart from the subject of

\footnote{7 This is clear from Albert's description of sense as "potentia passiva \dots{} (quae) transmutatur in speciem sensibilem secundum intentionem\dots{} quando vero habet speciem sensibilem, tunc est potentia completa per actum." (S. de Creat. II, q.34, a.1, Vives XXXV, 295-296)}

\footnote{8 For Albert cf. \textit{supra} p. 20 n. 9; for Thomas cf. S. T. I, q.55, a.1 ad 2, "\dots{}sensus in actu est sensibile in actu,\dots{}non ita quod ipsa vis sensitiva sit ipsa similitudo sensibilis quae est in sensu, sed quia ex utroque fit unum, sicut ex actu et potentia."}

\footnote{9 S. T. I, q.79, a.3 ad 1, "\dots{}sensibilia inveniuntur actu extra animam."}

\footnote{10 Quodlib. Vii, a.3, "Sensus autem exteriores suscipiunt tantum a rebus per modum patiendi sine hoc aliquid cooperantur, ad sui formationem."}

\footnote{11 \textit{ibid.}, "\dots{}(sensus) iam formati habeant proprium operationem quae est judicium de propriis objectis."}

\footnote{12 S. T. I, q.78, a.3}
sensation. He, no less than Albert, gave the exterior world full objective existence. Thus the object of sight is the visible object existing apart from the sense; the subject of hearing is sound, and so on for the other senses.

St. Thomas agrees with his teacher that all of these objects of sense cannot act directly upon the senses. Some must act through special media, while others can directly affect the sense organs.

Three senses must act through external media. Of these sight can be caused only when color acts through the medium off air or water. These are media, however only in so far as they are transparent or "diaphanous". Hearing also takes place through an external medium, or rather either of two exterior media, air or water. Smell is the third sense that operates

13 ibid., I, q.85, a.1, "Quaedam virtus cognoscitiva est actus organi corporalis, scilicet sensus; et ideo objectum cujuslibet sensitivae potentiae est forma, prout in materia corporali existit."
14 II de An., lect. 14, "...visibile est color;" ibid., lect. 16, "...determinat de audibili...id est de sono;" ibid., lect. 19, "...non ita bene determinari potest de odore...sicut de praedictis sensibilibus;" ibid., lect. 20, "...ostendit quod...sapor, qui est gustabile;..." ibid., "...tangibili, quod est objectum tactus..."
15 In one place in his commentary on the De Anima of Aristotle Thomas succinctly states his own position concerning media in sensation, (II de An., lect. 15), "Ostendit quid sit medium in his sensibus; et dicit quod illud quod movetur a sono est aer; medium quod movetur ab odore, est aliiquid commune aeri et aquae, et sicut utrumque eorum est medium quod movetur a colore; sed a colore movetur utrumque horum, secundum quod diaphanum." Although Thomas does not mention water as a medium for sound in this lectio, he does so a few pages later, (ibid., lect. 17), "...audimus in aere et in aqua."
through an external medium. It, like sound, takes place with either air or water to carry the sensible forms to its organ. Thomas says that touch and taste use internal, but no external media. 16 This agrees with Albert's opinion as we noted above. 17

Sense cognition for St. Thomas was a process of assimilation of subject to object. This is clear from his famous dictum: sensus in actu est sensibile in actu. 18 By this, however, he did not mean that the sense became physically identical with its object. This assimilation for Thomas as for Albert took place through a species or image. 19 The object causes a representation (similitudo) of itself in the sense, directly or mediately, and by this causes perception of itself. 20 St. Thomas also called this an intentional union or one per modum intentionis, 21 which are simply different expressions to explain the peculiar union necessary for cognition. This is exactly the position held by St. Albert, and it is expressed in practically the same terms. 22

16 De Sensu et Sensato, lect. 14, "...duo (sensus)...sentiunt suum sensibile conjunctum non per medium extraneum, scilicet tactus et gustus."
17 cf. supra pp. 32-34
18 S. T. I, q.55, a.1 ad 2
19 De Sensu et Sensato, lect. 2, "Quid autem sit sensus...ostendit...per hoc scilicet quod animalia recipere possunt species sensibilium."
20 II de An., lect. 13, "...substantia uniusquisque sensus et eius definitio est in hoc quod est aptum natum pati a tali sensibili...Ipsae enim species activorum in sensu actu sunt sensibilia propriaria."
21 IV Sent., dist. 44, q.3, a.1, sol. 3, "Alio modo aliquid recipitur in altero spiritualiter per modum intentionis cuiusdam sicut similitudo albedinis recipitur in aere et in pupilla..."
22 cf. supra p. 23
The species by which this union takes place are the accidental forms of sensible objects according to a special type of existence. They are not forms with natural physical existence but forms with what St. Thomas called esse spirituale. 23 This we saw was Albert's term for the mode of existence of sensible form in the sense faculty. 24 But while Albert restricts this mode of existence (at least by definition) to forms in the faculty, Thomas uses it for the non-physical existence of forms in media and sense. 25 This, however, is of minor importance because Albert gives no definition of esse sensibile and esse spirituale that really distinguishes the two. Both are types of esse representativum, and as such, Thomas equates them calling both esse spirituale.

This esse spirituale is effected, according to St. Thomas, by a "spiritual change" which is the specific activity of the object in sensation. 26 Natural change—the physical assimilation of organ or medium to the sensible object—may or may not accompany sensation, but there must always be the spiritual change if there is to be actual

23 II de An., lect. 24, "...(forma) in re sensibili habet esse naturale, in sensu autem habet esse intentionale et spirituale."
24 cf. supra pp. 22-23
25 cf. supra p. 46, nn. 21 and 23
26 S. T. I, q.78 a.3, "Est autem duplex immutatio; una naturalis, et alia spiritualis. Naturalis quidem secundum quod forma immutantis recipitur in immutato secundum esse naturale; sicut calor in calentacto; spiritualis autem, secundum quod forma immutantis recipitur in immutato secundum esse spirituale, ut forma coloris in pupilla, quae non fit per hoc coloratæ. Ad operationem autem sensus requiritur immutatio spiritualis, per quam intentio formæ sensibilis fiat in organo sensus."
sensation. If this were not so all bodies would have sensation every time they were physically altered. For example, a stone becoming warm would sense warmth. According to St. Thomas this *immutatio spiritualis* takes place in the medium and in the sense in some cases, and only in the sense in others. In sight, for instance, there is this spiritual change in the sense and in the medium. The same is true for smell. Actual sound is not a quality of bodies but of air, so it exists physically in air and has the *immutatio spiritualis* only in the sense. Taste and touch have no external medium so the *immutatio spiritualis* can be only in the sense. There is however a natural change in the sense organs of these two senses besides the "spiritual" change, since the hand touching something warm itself becomes warm and the tongue becomes moist from the moist taste.

On this matter of spiritual change in sensation there is general

27 *ibid.*, "...alioquin si sola *immutatio naturalis* sufficeret ad sentiendum, omnia corpora naturalia sentirent dum alterantur."

28 *II de An.*, lect. 20, "...*immutatur medium spiritualiter* (in olfactu).... Quod autem *spiritualis immutatio* fit a visibili magis quam ab aliis sensibus..."

29 *ibid.*

30 *ibid.*, lect. 16, "Nam in corpore sonante non est sonus, nisi in potentia. In medio autem quod movetur ex percussione corporis sonantis, fit sonus in actu."

31 *S.T. I.*, q.78, a.3, "Ex parte autem organi est *immutatio naturalis* in tactu et gustu; nam et manus tangens calida calefit, et *lingua humectatur per humiditatem saporis*." He explains this last, *ibid.* ad 4, "Nam tactus *immutatur naturali immutatione*, et non solum spirituali, quantum ad organum suum secundum qualitatem quae ei proprie objicietur; gustus autem organum non *immutatur de necessitate naturali immutatione* secundum qualitatem quae ei proprie ei objicietur (ut scilicet *lingua fiat dulcis, vel amara*), sed secundum praesambulam qualitatem in qua *fundatur sapor*; scilicet secundum humorem, qui est objectum tactus."
agreement between Albert and Thomas with some little disagreement on one or two minor points. When Thomas speaks of \textit{immutatio spiritualis} in the media of sight and smell, he is saying in different words what we heard Albert say above, when he stated that colors and odors were in the air and water as in media. This mode of existence he contrasted to natural existence as in a subject.\footnote{cf. \textit{supra} p. 35} The sensibles of touch and taste are in their internal \textit{medium} \textit{naturaliter} and \textit{spiritualiter} for Thomas and as in a medium and as in a subject for Albert, so both agree on this. Albert and Thomas differ on sound. Thomas, as we have noted, says that is is in air only as in its subject, according to \textit{esse naturale}, whereas Albert says it has the spiritual existence as well and is in the medium as in its subject and as in a medium. This is of minor importance, but it is a point of definite disagreement.

Since Thomas holds a species theory of sense cognition, it is natural that he says that the forms of sensible objects are received by the senses without their matter.\footnote{cf. \textit{supra} p. 35} On this he and Albert follow Aristotle.\footnote{cf. \textit{supra} p. 7} All three hold that the species in cognition are forms abstracted from the matter of sensible objects but received into the sense organs under the conditions of matter.

\footnote{\textit{II} \textit{de An.}, lect. 24, "\textit{Sensus est susceptivus formarum sine materia, sicut cera recipit signum annuli, sine ferro et auro;}
and \textit{S. T.} I, q.84, a.2, "...sed cum materialibus conditionibus."}
For Thomas the species in sense cognition are, as we mentioned in our last chapter, the *medium quo rea cognoscitur*, not the *medium quod cognoscitur*. This means that the species are not perceived in sensation but lead directly to a perception of the object they represent. Albert holds the same position on the nature of the species.

Thus far there has been almost complete agreement; the only conflict was on one minor point of the nature of the existence of sound in its medium. There are a few similar points which we shall now treat. A typical instance, though obviously not important, is the emendation St. Thomas makes of St. Albert's statement that colors are only potentially in the medium between the object and the eye. Thomas must have noticed that color only potentially in the diaphanous medium could never actuate the species of color in the eye. He did, likewise, realize with Albert that the color was not there in its physical actuality, for if it were the medium it would impede rather than help vision. Still the Angelic Doctor has no real answer for the difficulty so he merely tones down Albert's "potentially" to this: "...iste modus essendi propter suam imperfectionem appropinquat ad modum quo aliquid est in aliquo in potentia." The other points of difference, such as the classification of the internal senses, on which

35 cf. *supra* p. 39
36 *ibid.*
37 *S. de Creat. II, q.34, a.2 (Vives XXXV, 301), "...sensibile in medio sicut in medio, non est nisi secundum potentiam et viam et transitum.*
38 *De Senso et Sensato*, lect. 5
Albert followed the Arabians and Thomas followed Aristotle, need not concern us here since they are beyond the scope of our investigation of causality in external sensation. Suffice it to repeat that there are no major disagreements; besides on the particular issue that concerns us, causality in external sensation, the two are in perfect agreement.

With this we conclude our treatment of St. Albert's contribution to the scholastic theory of external sensation. To summarize our findings briefly, we can say that although St. Albert did not completely free himself from the influence of Plato and Augustine, nonetheless on the question of our study he followed Aristotle faithfully. He clung to the Aristotelian basis of the solution and followed the Stagirite throughout this explanation.

It is good for us to look on St. Thomas' synthesis as the crown of medieval philosophy, but we should not forget that many of the jewels of that crown were borrowed from St. Albert the Great. Albert, it is true, was never the philosophical goldsmith to cast such a crown; he did however, cut the brilliant facets on several of its largest gems. One of the jewels of this diadem whose sparkling radiance is the product of Albert's handiwork is the scholastic theory of causality in external sensation. Let us give St. Albert full credit for this masterly work.

39 For a treatment of these differences see Reilly, 20-30
40 cf. supra p. 44
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**Periodical**

The thesis submitted by James Vincent McGlynn has been read and approved by three members of the Department of Philosophy.

The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated, and that the thesis is now given final approval with reference to content, form, and mechanical accuracy.

The thesis is therefore accepted in partial fulfillment of the requirements for the Degree of Master of Arts.

Jan. 4, 1947

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