Claude Perrault's Aesthetic Theory and the Association of Ideas

Few barriers existed among the various branches of knowledge during the Enlightenment. Since most fields did not possess either a unique or a sophisticated methodology, a free-ranging scholarship was often possible—particularly when, as often happened, writers in several areas agreed on the critical importance of the same focal idea. One such pervasive notion was that the study of human nature could provide the key to apparently diverse fields of inquiry; this belief was widely held not only in mental and moral philosophy, but also in ethics, aesthetics, political philosophy, history, literary criticism, and in economics. Among literary critics, for example, there was "one embracing principle of criticism"; it was agreed that "a critic must analyse the effect a work of art has on the minds and emotions of the audience." In aesthetics Joseph Addison, Francis Hutcheson, Alexander Gerard, Archibald Alison, James Beattie and Edmund Burke were among those who discussed the psychological basis of the aesthetic response. Despite the attention such writers devoted to psychological analysis, their books have often been ignored by historians of psychology.

Among the earliest of the psychologically inclined aestheticians was Claude Perrault (1613-1688). Although a prominent anatomist and an original member of the French Academy of Sciences, Perrault is best remembered for his achievements in architecture. These include the East Facade of the Louvre, the Paris Observatory and much of the decoration of the Palace of Versailles. Perrault's enthusiasm for architecture had been sparked when, prompted by Jean Colbert, the finance minister of Louis XIV, he began to translate the works of the Roman architect Vitruvius.² His own book on the design of columns, *Ordonnance des Cinq Espèces de Colonnes* (1683), was to have a major impact on French architectural styles. But Perrault's influence was to spread beyond architecture, particularly when his books were transplanted through translation into the more congenial intellectual soil of Great Britain.

Perrault's Aesthetic Theory

From the moment his edition of Vitruvius was published in 1673, Perrault was involved in controversy. The prevailing classical aesthetic theory claimed that beauty is dependent on proportions inherent in nature and is, therefore, independent of man. Practising artists in particular had inherited from the Renaissance a belief in "universal rules, obligatory canons, perfect cosmic proportions."3 This theory of beauty as universal and objective was stressed most strongly among architects and sculptors although it had also been widely adopted by poets and painters. The members of the Royal Academy of Architects were thus profoundly disturbed by certain suggestions Perrault made in the Preface and Notes to his edition of Vitruvius to the effect that beauty is largely a product of the imagination: "La Beauté n'ayant guere d'autre fondement que la fantaisie." It depends on "du hazard, de la volonté, et de l'accoutumance"—chance, whim and habit. 4 Architects choose certain forms not because they are intrinsically beautiful, but because they have previously been used by earlier architects who are still admired. Rules derived from great designers such as Vitruvius are a useful guide to taste, but they have no true basis in nature. There is, therefore, no reason why modifications should not be introduced in them. Tatarkiewicz has argued that with these statements Perrault single-handedly initiated the debate which was to dominate aesthetic discussion for the next century. As the designer "of one of the most famous pieces of architecture of the century," Perrault "had great authority. His heterodox, subjectivist theory of architetonic proportion was a glove flung in the face of established opinion, and as such was bound to elicit an immediate reply."5 The Academy decreed that while Perrault's theory might be true for minor details, "it is probable that there is in architecture a certain numerical arrangement and proportion which results in the harmony we call beauty, and which is analogous to harmony in music.6 Blondel, the Director of the Academy, and Ouvard, Music Master of the Sainte Chapelle, continued the assault on Perrault in books which propounded this harmonic theory. When the argument among the proponents and opponents of classicism spread to literature—with Charles Perrault, a brother of Claude, as one of the major protagonists—the result was the famous Querelle des Anciens et des Modernes.

Perrault's Ordonnance was at least partially written as a defense against the Academy's attacks and those of LeVau, who had been supplanted as architect of the Louvre and so a disgruntled spokesman for the Louvre on the grounds that changes had been introduced in the accepted forms of columns. In his rebuttal, Perrault again raised—and this time more explicitly—the issues which were to become the

central concerns of eighteenth-century aesthetics. Is beauty rooted in the physical world or is it dependent upon perception? If the latter is the case, does it result from the operation of an innate sense or faculty, or is it acquired through experience?

More specifically, how valid was LeVau's claim that there is one shape and proportion for each type of column which is more pleasing than all others? Perrault concluded that there is a range of acceptable forms rather than a single one which is ideal. But why, then, do we have such definite aesthetic preferences? It is "always something that is positive, as is that of the Consonance of Musick, or ... [is] it not most commonly founded upon Custom only." He proposed that there are "two Sorts of Beauties"; one, the natural, founded on "solid convincing Reasons," the other on "Prepossession and Prejudice." In architecture the former includes such things as richness of material, grandeur of structure and fine workmanship. Although Perrault was vague at this point, he appeared to believe that these qualities of the physical world are perceived as beautiful because they trigger an internal sense or faculty of beauty. Such "positive" perception is universal, apparently innate and requires no process of rational judgement: "Sense alone is sufficient for knowing the greatest part of positive Beauties." Perrault also argued that there are other "arbitrary" beauties. These are not universally and naturally admired but are the result of "Custom, and a Connexion which the Mind makes of two Things of a different Nature." The "Esteem" which the Mind has naturally for one thing becomes attached to another of unknown worth. "There are Things which Custom alone renders so agreeable, that we cannot bear to have them otherwise, tho' they have no Beauty in themselves, that must infallibly please, and necessarily demand Approbation..." Certain shapes of columns, for example, are considered beautiful not because they are naturally superior but because traditionally they have been finely constructed of rich materials. The mind has linked shape with these other "positive" qualities so that architects "could not imagine, but that the Proportions, which might really have been otherwise, without Prejudice to the other Graces, would have produc'd an ill Effect, had they been alter'd."9

Now Perrault's explanation of arbitrary beauties utilized the association of ideas, although the theory had not yet been given that name. ¹⁰ This doctrine, that a relationship is established between psychological phenomena through experience so that the presence of one of the phenomena tends to elicit the other(s), was to become the most pervasive of all psychological theories. A number of earlier writers had, of course, recognized the existence of this principle. ¹¹ But typically they

had mentioned it only in passing; never before had it been so clearly described or used so methodically.¹²

Perrault not only demonstrated that association can account for certain of our aesthetic preferences; he also recognized its wider relevance. Although he did not systematically analyze the concept, the French writer described it as an automatic process which operates according to the principle of continguity and is, therefore, difficult to guard against. It produces a sense of certainty and is "the natural Foundation of Belief, which is nothing else but an Effect of that Prepossession, by which the Knowledge and good Opinion we have of him who assures us of any thing whose Truth we are ignorant of, disposes us to make no Doubt of it." It is also the cause of man's love of fashion and "Things in the Mode"; Perrault claimed that this "affection" results from the regard people have for the "Merit and good Graces of the Court" where styles of speech and dress often originate. 13 Again, he explained the love of "the Antique" as resulting from the Church having long protected such things. And finally, in a separate essay, "On Pilasters," Perrault applied the principle in a general way to the ability to perceive distance which he considered to be an acquired rather than an innate skill.

This recognition of the breadth of the explanatory power of association was useful in its own right. What made Perrault's work truly significant, however, was his grasp of the principle underlying the variety of his examples: the theory of association is potentially relevant whenever a response has been acquired; it is the mechanism by which custom and experience influence us. When this idea was finally accepted—by David Hartley, for example—the doctrine came into its own:

But all that has been delivered by the Ancients and Moderns, concerning the Power of Habit, Custom, Example, Education, Authority, Party-prejudice, and Manner of learning the manual and liberal Arts, etc. goes upon this Doctrine as its Foundation, and may be considered as the Detail of it, in various Circumstances.¹⁴

Perrault's Influence

The first convert to Perrault's aesthetic theories was his equally famous brother. The main phase of the "Querelle des Anciens et des Modernes" began when Charles Perrault extended Claude's arguments into literature. In a poem Le Siècle de Louis le Grand which he read before the Académie Française in 1687, Charles compared his age with that of Augustus, concluding that the modern writers were superior to the classical. He developed that argument further in Parallèles des Anciens et des Modernes which he published the following year. In

this book he presented his brother's views without essential change. According to Tatarkiewicz, Claude Perrault's anti-traditional views having been thus generalized, "met with a response in general aesthetic theory that exceeded all expectation. Andrè and de Crousaz, the two major [French] aestheticians of the first years of the eighteenth century both advanced the same views. 15 But it was in England that his views were to have their greatest impact.

The use of the concept of association had gradually become widespread in Britain after John Locke published his new chapter, "Of the Association of Ideas," in 1700.16 Unlike Perrault, who had described association as a mechanism of learning, Locke viewed associations among ideas which do not have a "natural Correspondence and Connexion" as an undesirable hinderance to rational thought and as a form of "Disease," "Taint" or "Madness." 17 The details of the theory were gradually worked out over the next few decades by writers who typically acknowledged what they believed to be Locke's founding role. Almost all of them were British and interest in the theory was largely restricted to Great Britain until the middle of the century. Yet, as Diamond has stated: "With such an introduction as Locke gave it, the principle of association was handicapped rather than assisted toward becoming the leading explanatory principle in British psychology."18 Before the broad usefulness of association could be recognized, it was necessary to discard Locke's belief that it is an undesirable, anti-rational tendency against which one must assiduously defend one's self. A knowledge of the history of the concept and particularly of Thomas Hobbes' use of it might well have done much to counteract this impression, but Locke's contemporaries and immediate successors appear to have been unaware of most of its earlier history. Aside from one incidental reference by Dryden, Hobbes' discussion of associated "traynes of thought" does not seem to have been mentioned until 1783!19 Those who followed Locke in writing about the doctrine were long blinkered by their knowledge of his negative opinion of it. A different perspective on the association of ideas was needed before it could be recognized—as John Gay and David Hartley were finally to do—as the key concept it is.

Perrault did not, however, suffer from the typical "handicap." He had written his *Ordonnance* prior to and independently of the great English philosopher. Its English edition of 1708 marked the first positive discussion of the association of ideas following Locke's critical assessment of it; as a result of its fortuitious date of publication, the *Treatise* was available when it was most needed as an antidote to the negativism of Locke's evaluation of the associative principle.²⁰ But did Perrault's book actually serve this purpose? Beginning in 1728, as we

shall see, Perrault's contributions to the associational theory were explicitly acknowledged. It seems probable, however—although the evidence remains indirect—that there was an earlier and more important stream of influence stemming from it.²¹ This is hardly surprising, of course. As Robertson has stated, "it was not the custom of the eighteenth century to 'document' with scientific conscientiousness the authorities on which opinions were based."²² Scholars of the period were often inclined to acknowledge the views of other writers only when they disagreed with them. Frequent positive references to Locke and Newton were the exceptions, perhaps because of the patriotic fervor which swept English intellectual life in the early decades of the century. Lesser British writers tended to go to some lengths to establish connections between their own ideas and those of these luminaries, and the origins of currently popular theories were often traced no further than Locke or Newton.

The more significant, albeit unacknowledged, line of influence of Perrault's views on association originated with Joseph Addison. It was in the field of aesthetics that association first became firmly established as a useful explanatory concept and it was in Addison's series of essays The Pleasures of the Imagination that the principle began, in Britain, to be utilized in the attempt to understand the psychological basis of aesthetic judgement.²⁴ Addison's psychology, although enormously influential among eighteenth-century critical theorists, was hardly original. In common with other eighteenth-century writers, Addison tended not to identify explicitly his sources. Furthermore, the roots of his theory have never been adequately examined; historians have been more interested in the dissemination of his ideas than in their sources. Thorpe like other writers was primarily interested in Addison's influence on subsequent thought, but he did make the point that although the essayist's psychology "derived in part from Descartes, in part from Hobbes, in part from Locke, it represents none of these in detail, nor a union of them, but a rather loose adaptation by a mind more artistic than systematic."25 Although it is undoubtedly true that Addison borrowed from each of these writers, he names none of themalthough there is one reference to "Cartesians." These three moreover, are only a few of those from whom the widely read Addison borrowed, and the similarity between his views and those of Perrault-combined with the easy availability of the latter—makes an assumption that he was influenced by the French writer a reasonable one.26

Denying the existence of an innate idea of beauty, Addison maintained that God has instead endowed man with a number of faculties which respond with pleasurable feelings when we are confronted by

novelty, grandeur or beauty. There is, however, a secondary source of imaginative pleasure—association.

We may observe, that any single circumstance of what we have formerly seen, often raises up a whole scene of imagery, and awakens numberless ideas that before slept in the imagination; such a particular smell or colour is able to fill the mind, on a sudden, with a picture of the fields or gardens where we first met with it, and to bring up into view all the variety of images that once attended it.²⁷

Like Perrault, Addison propounded a dual theory of beauty. The "positive" beauties of the French writers became the "faculty" of beauty of Addison, but despite the difference in name each writer posited an innate and active mental power which responds naturally to certain features of the physical world. For Perrault it was factors such as richness of material and excellence of workmanship which trigger the aesthetic response; for Addison colour and symmetry were important. Additionally, however, each recognized the need for a subsidary principle which could account for those aesthetic preferences which are not shared but are unique to each individual. Such judgements are learned and association is the mechanism by which such idiosyncratic responses are acquired.

Addison's views were in turn adopted and extended by Francis Hutcheson. ²⁸ In An Inquiry into the Original of our Ideas of Beauty and Virtue (1725), Hutcheson described the operation of a "sense" or faculty of beauty, for him, "uniformity amidst diversity" was the feature of the world which stimulates the sense of beauty. ²⁹ And like his immediate predecessor, he saw association as a useful principle to account for the exceptions and additions to universal judgements; we all learn to admire certain things which our aesthetic faculty would not originally have judged as beautiful. Although again Perrault's name was not mentioned, it seems probable that Hutcheson was also aware of the Treatise since many of the examples of the associative process given by the Irish writer—as accounting, for example, for fashion and for a preference for certain architectural forms—are the same as Perrault had given.

It was common in the eighteenth century for writers interested in aesthetics to be concerned with the problems of ethical behaviour. Hutcheson was a typical Enlightenment author in this respect. Having found a double theory—comprising elements of both faculty psychology and of associationism—useful in accounting for aesthetic judgement, he adopted a similar dual approach in his attempt to understand the psychological basis of moral behaviour. We are prompted, he argued, by an internal, innate and universal faculty to act benevolently. It is obvious, however, that we do not always respond in this

manner. As he had done with aesthetic judgement—although more tentatively—Hutcheson used association to account for such exceptions to expected ethical responses.

It was Hutcheson's immediate successor, John Gay, who first recognized the potential of association as a primary explanatory principle of psychological phenomena. This view he expressed in a relatively brief but complex essay, "Preliminary Dissertation Concerning the Fundamental Principle of Virtue or Morality," which first appeared anonymously in 1731.30 According to Gay, what Hutcheson had failed to see was that if association could account for the numerous exceptions to what should be—according to his primary theory—universal behavioural patterns, such "exceptions" may actually be the rule. The hypothesized faculties may not exist. The behaviour thought to stem from them may entirely be acquired, a product of reasoning and association. It was in grasping this "truth," a logical implication of Hutcheson's position, that Gay's major contribution and significance lies. David Hartley, ignoring the role assigned by Gay to reason, picked up the idea of the primary importance of association. Popularized by Joseph Priestly through his shortened edition of Hartley's Observations, 31 the principle was to become the cornerstone of the mainstream of psychological theorizing for many decades.

Explicit References to Perrault's Views on Association

Neither Addison nor Hutcheson had made any direct reference to Perrault. That writer's views on association were finally acknowledged in Ephriam Chambers' Cyclopaedia (1728). This was the first of the great universal encyclopaedias. Its popularity was enormous; in little more than twenty years seven English editions were published. It was also widely translated. Indeed, the original plan for what became the Encyclopédie of Diderot and D'Alembert was for a French translation of the Cyclopaedia. But Chambers' work, "that most useful collection of learning," was influential as well as popular. There have even been suggestions, for example, that Hume's knowledge of Berkeley was entirely derived from its pages. Whatever the truth of this particular assertion, the Cyclopaedia played a role in the scholarly life of the eighteenth century which would be inconceivable today.

A separate entry is given to the "Association of Ideas" in the Cyclopaedia. In it, Chambers presented what appears to be the first formal definition of the concept; "Association of Ideas, is where two or more Ideas, constantly and immediately follow or succeed one another in the Mind, so that one shall almost infallibly produce the other; whether there be any natural Relation between them, or not." Only Locke is mentioned, but the reader who followed the cross-references

would find an article "Beauty" where Perrault's views were discussed in detail. Recognizing that Perrault's theory entailed the association of ideas, Chambers described the two types of beauty and how arbitrary beauties are the result of the connection of "Association of Ideas." ³⁶

The Cyclopaedia was the probable source of Mark Akenside's knowledge of Perrault's ideas. Akenside's influential and much reprinted didactic poem The Pleasures of the Imagination (1744) used the beauties of nature as a means of describing the operations of the human mind. Much influenced by the aesthetic theories of Addisonas the title of his poem attests—and of Hutcheson, he was interested in the psychological foundations of beauty. In a note discussing opinions about the connection between beauty and truth, he referred to Perrault: "But others there are who believe beauty to be mainly a relative and arbitrary thing."37 The section in the Cyclopaedia on association and another entitled "Architecture" seem also to have been the immediate source of one chapter in Hartley's Observations called "Of the Beauties of the Works of Art." Writing about the orders of pillars, he paraphrased Perrault: "The Proportions become associated so often with a Variety of Beauties in Costly Buildings, that they could not but be thought naturally beautiful at last."38

By the end of the third decade of the eighteenth century, books utilizing the concept of association were beginning to proliferate in Great Britain. The realization had dawned of its broad explanatory powers; Locke's view that the principle produced only "Errours" was no longer widely accepted. Although Claude Perrault's contribution has seldom been mentioned by historians, he would seem to have played an important role in this development. Even with his work—or Locke's chapter, for that matter—association would not have become the "leading principle of British psychology" if it had been incompatible with the prevailing ontology and sensationalist epistemology. The intellectual climate was hospitable, however. Indeed its logic demanded that some such notion as association be articulated. If innate ideas were to be denied and empiricism proclaimed, an understanding of the process of learning was required. Perrault was the first to recognize that association could provide such a general explanation. Locke might well have been expected to have grasped this point but he was too fixed with the idea that the principle was anti-rational. When the Treatise was eventually published in England, Perrault's views seem to have supplied the needed theory. It was, as a consequence, intially in aesthetics-beginning with Addison-that association's role in accounting for acquired judgements came to be generally appreciated. Once its utility in the companion field of ethics was similarly recognized—this time by Hutcheson—it required but a short imaginative leap for John Gay to grasp that innate powers as well as innate ideas might be unnecessary. This period of growth was to culminate in mid-century when Gay's idea that all psychological phenomena might be learned was picked up by David Hartley. The belief that association is the cardinal psychological principle became the cornerstone of Hartley's Observations on Man and gained wide acceptance after Joseph Priestly published his edition of that work in 1775.

NOTES

- Gordon MacKenzie, Critical Responsiveness: A Study of the Psychological Current in Later Eighteenth-Century Criticism. (Berkeley: University of California Press, 1949), p. 1.
- Claude Perrault, Ed., Les Dix Livres d'Architecture de Vitruve, Corrigez et Traduits Nouvellement en Français, avec des Notes et des Figures (Paris: J. B. Coignard, 1673). A second French edition was published in 1684. Claude Perrault, Ordonnance des Cinq Espèces de Colonnes selon la Méthode des Ancienes (Paris: n.a., 1683).
- 3. Władysław Tatarkiewicz, "Objectivity and Subjectivity in the History of Aesthetics," Philosophy and Phenomenological Research 24 (1963-64), p. 167.
- 4. Perrault, Les Dix Livres (1673), Preface.
- 5. Władysław Tatarkiewicz, History of Aesthetics, vol. 3 (The Hague: Mouton, 1974), p. 417.
- Sir Reginald Blomfield, A History of French Architecture, 1661-1774, vol. 1 (London: G. Bell & Sons, 1921), p. 18.
- 7. See Chapters 14 and 15 of the fifth section of François Blondel's Cours d'Architecture, 2nd ed., vol. 2, (Paris: n.a., 1698), pp. 761-768.
- 8. For the details of the controversy over the choice of architects for the Louvre and LeVau's attack, see Chapter VI of Blomfield, *History*, vol. 1 (1921), pp. 68-83.
- 9. Claude Perrault, A Treatise of the Five Orders of Columns in Architecture, trans. John James (London: Benj. Motte, 1708), pp. v-x.
- This was finally done in the fourth edition of John Locke's An Essay Concerning Humane Understanding (London: n.a., 1700) when a new chapter was added entitled "The Association of Ideas."
- 11. Among them were Plato, Aristotle, Thomas Aquinas, Jean Louis Vives, Francis Bacon, and Thomas Hobbes. Diamond has demonstrated that a recognition of the connective principle was not uncommon in seventeenth-century France. As an anatomist Perrault may have been aware of the earlier writings cited by Diamond. See: Solomon Diamond, "Seventeenth Century French 'Connectionism': La Forge, Dilly and Regis," Journal of the History of the Behavioral Sciences 5 (1969), pp. 3-9.
- 12. One possible exception is Thomas Hobbes, whose work on this topic deserves closer attention. His immediate influence, however, was limited by the revulsion his contemporaries felt for his general intellectual system.
- 13. Perrault, Treatise (1708), pp. vi-vii.
- 14. David Hartley, Observations on Man, 2 vols. (London: S. Richardson, 1749), I, p. 65.
- 15. Tatarkiewicz, History, vol. 3 (1974), pp. 422-423.
- Locke also wrote on association in A Treatise on the Conduct of the Understanding, which
 was published posthumously. (London: 1706, Section 41.)
- 17. Locke, Essay, (1700), p. 225.
- 18. Solomon Diamond, ed., The Roots of Psychology (New York: Basic Books, 1974), p. 282.
- 19. John Dryden, Fables, Ancient and Modern (London: Jacob Tonson, 1700), p. 1 of the Preface.
- 20. An anonymous reviewer of James Beattie's Dissertations: Moral and Critical (London: Cadell, 1783) wrote in the Monthly Review of 1783, vol. 69, p. 32: "It is but justice of the memory of a great philosopher and very original thinker of the last age to observer, that this doctrine, which is commonly considered as having been just proposed by Mr. Lock [sic] is to be found illustrated with great ingenuity in the philosophical writings of Mr. Hobbes."

- 21. At least three English editions of his *Vitruve* were published—in 1692, 1703, and 1729; more importantly, the *Ordonnance* was twice published in England—in 1708 and 1722.
- 22. John Robertson, Studies in the Genesis of Romantic Theory in the Eighteenth Century (New York: Russell & Russell, 1962), p. 242.
- 23. George Berkeley, An Essay Towards a New Theory of Vision (Dublin: Jeremy Pepyat, 1709), propounded a theory of spatial perception which was similar to that of Perrault. This aspect of Berkeley's thought, however, seems generally to have been ignored by his contemporaries.
- Joseph Addison, "The Pleasures of the Imagination," The Spectator, vol. 6 (Edinburgh: Printed for A. Donaldson, 1767), pp. 55-118. The essays were printed in thirteen parts between June 18 and July 3, 1712.
- 25. Clarence Thorpe, "Addison and Hutcheson on the Imagination," ELH 2 (1935): 224.
- 26. In the opening issue of the *Spectator* Addison wrote: "there are very few celebrated books, either in the learned or modern tongues, which I am not acquainted with." Addison, *Spectator*, vol. 1 (1767), p. 3.
- 27. Addison, Spectator (1776), p. 95.
- 28. Thorpe has done an admirable job of detailing both the similarity between the two positions and the debt of Hutcheson to Addison.
- 29. Francis Hutcheson, An Inquiry into the Original of our Ideas of Beauty and Virtue: In Two Treatises, 2nd ed. (London: n.a., 1726).
- 30. [John Gay], "Preliminary Dissertation Concerning the Fundamental Principle of Virtue or Morality." Printed as a Preface to Edmund Law's translation of William King's An Essay on the Origin of Evil (London: n.a., 1731).
- 31. Joseph Priestley, Hartley's Theory of the Human Mind, on the Principle of the Association of Ideas; With Essays Relating to the Subject of it. (London: J. Johnson, 1775).
- 32. Ephraim Chambers, Cyclopaedia: Or, an Universal Dictionary of Arts and Sciences, 2. vols. (London: James and John Knapton, 1728).
- 33. B., of Warwickshire, Gentleman's Magazine XXI (1751); p. 56.
- Weiner, P. "Did Hume ever read Berkeley?" Journal of Philosophy, 1959, 56: 533-35; 1961,
 58: 207-9, 327-8.
- 35. Chambers, Cyclopaedia (1728), vol. 1, p. 161.
- 36. Ibid., p. 94.
- 37. Mark Akenside, *The Pleasures of the Imagination*, 6th ed. (London; R. Dodsley, 1763), p. 37.
- 38. Hartley, Observations (1749); vol. 1, p. 245.