

Philosophy 103: Introduction to Logic

Logic Exercise: Diagramming, Level II

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Directions: Circle the argument indicators in the following passages and diagram the structure of the arguments in those passages using the numbered statements provided.

- (1) The simplest explanation receives priority over the rest (2) because it is the easiest to refute and (3) thus needs to be checked first.¹

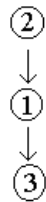


Figure 1: Indicator(s): because; thus.

- (1) When we measured sound from the muscles of a professional ballerina, we found she could not hold as much weight in her hand as Jaffee could. (2) When she was supporting her weight on her toes, however, the sound coming from the gastrocnemius was much intenser than it was when Jaffe was standing on his toes. (3) The dancer's training in standing on point had apparently led her to adopt a stance different from the one Jaffee took up. (4) This suggests that the measurement of muscle sound can reveal which muscles are operating in a particular physical maneuver.²

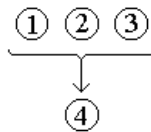


Figure 2: Indicator(s): this suggests.

¹Maxim D. Frank-Kamenetskii, *Unraveling DNA*, trans. Lev Liapin (New York: VCH Publishers, 1993), 45.

²Gerald Oster, "Muscle Sounds," *Scientific American* (March, 1984), 111.

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3. (1) The *Ambassadors* exhibits the peculiar talents of Holbein—his strong sense of composition, his subtle linear patterning, his gift for portraiture, his marvelous sensitivity to color, his faultlessly firm technique. (2) This painting may have been Holbein’s favorite; (3) it is the only one signed with his full name.³

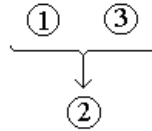


Figure 3: Indicator(s): none present.

4. (1) [O]ne reason for the concentration of financial firms in a small number of centres is (2) the social connection and information that comes from proximity with people in related fields. (3) A second is the use of technology that (counter-intuitively) still filters a lot of apparently dispersed investment back to a few key electronic exchanges. (4) A third is the increasing globalisation of big corporations.⁴

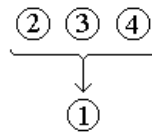


Figure 4: Indicator(s): one reason for; a second; a third. Note that “one reason for ...is” indicates a conclusion present in the ellipsis.

5. (1) By the control and prevention of disease, civilized communities have prolonged the lives of their own individuals, increased their potential fertility and decreased infant and child mortality. (2) They have also, and quite rightly, introduced such medical benefits to backward and under-developed countries. (3) Therefore we have the population explosion.⁵

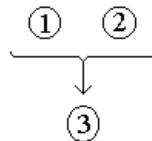


Figure 5: Indicator(s): therefore.

³Horst de la Croix and Richard G. Tansey, *Gardner’s Art Through the Ages*, 6th ed. (New York: Harcourt Brace, 1975), 566.

⁴Julie Sell, “Financial Centres: Enduring Attraction,” *The Economist* (13 September 2007), 47.

⁵John Postgate, *Microbes and Man*, 3rd. ed. (Cambridge: Cambridge University Press, 1992), 267.

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6. (1) All teachers and scholars are more or less vain. (2) They strive for an audience, applause and approval from their auditors. (3) They seek and need the approbation of an audience. (4) Teachers are performers. (5) They derive direct narcissistic satisfaction from the rapt attention of their class.⁶

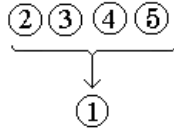


Figure 6: Indicator(s): none present. First sentence is the topic.

7. (1) That no sensation is ever completely public, results from differences of point of view. (2) Two people looking at the same table do not get the same sensation, (3) because of perspective and the way the light falls.⁷



Figure 7: Indicator(s): because. First sentence is the topic.

8. (1) Our conscious mind arranges, and puts a certain amount of order into, the phenomena of the external world that surround us. (2) There is no sharply drawn line between conscious and subconscious experience. (3) Our consciousness often indicates the directions in which our subconscious continues to work. (4) Therefore, the fundamental objective of our psycho-technique is to put us in a creative state in which our subconscious will function naturally.⁸

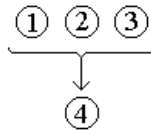


Figure 8: Indicator(s): therefore.

⁶Peter Loewenberg, *Decoding the Past: The Psychohistorical Approach* (New York: Knopf, 1983), 92.

⁷Bertrand Russell, *The Analysis of Mind Lecture*, "VI. Introspection."

⁸Constantin Stanislavski, *An Actor Prepares* (New York: Theatre Arts, 1948), 266.

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9. (1) Superhelicity must, of course, make the *Z* form more advantageous, (2) since the change in the helix's sense from positive to negative in a DNA section tends to remove the tension in the rest of the negatively supercoiled molecule. (3) It would thus be quite natural to assume that in superhelical DNA, sections with alternating *G* and *C* sequences would transform into the *Z* form.⁹

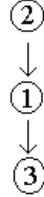


Figure 9: Indicator(s): since; thus.

10. (1) [I]t seems hard to prove that the composition of music and words was ever a simultaneous process. (2) Even Wagner sometime wrote his “dramas” years before they were set to music; (3) and, no doubt, many lyrics were composed to fit ready melodies.¹⁰

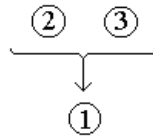


Figure 10: Indicator(s): hard to prove. “And” connects equal status clauses.

11. (1) Even when an organized attempt to avoid the intrusion of values is made, it can never be successful. (2) Psychoanalysis has for years operated with the conceit of a value-free system. (3) Yet time and time again the imposition of values has been demonstrated.¹¹

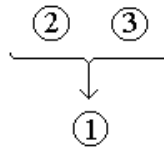


Figure 11: Indicator(s): none present. First sentence is topic.

⁹Maxim D. Frank-Kamenetskii, *Unraveling DNA*, trans. Lev Liapin (New York: VCH Publishers, 1993), 150.

¹⁰René Wellek and Austin Warren, *Theory of Literature* (New York: Harcourt, Brace: 1956), 127.

¹¹Samuel Gorovitz, *et al*, *Moral Problems in Medicine* (Englewood Cliffs, N.J.: Prentice-Hall, 1976), xiii.

12. (1) Serious pollution occurs when water is so stagnant that the microbes use up all the air available. (2) Not only do anaerobic bacteria start growing, and producing putrescent smells, but (3) fish and plants die, making the pollution worse. (4) Sooner or later the sulphate-reducing bacteria start growing too, and (5) since the hydrogen sulphide they form, as well as smelling particularly nasty, is toxic to most living things, (6) they augment the pollution even further. (7) Hence microbial water pollution is self-perpetuating.¹²

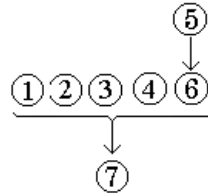


Figure 12: Indicator(s): since; hence. ‘‘But’’ indicates equal status.

13. (1) Some ingredients of urban refuse can be burned, (2) but it is not always desirable to do this. (3) Plastics of the chlorinated hydrocarbon kind (polyvinyl chloride, for instance) are widely used and disposed of today and, (4) if these are burned, hydrochloric acid is released and damages the furnace and flues as well as producing noxious fumes.¹³

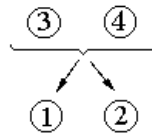


Figure 13: Indicator(s): none present. ‘‘And,’’ ‘‘but’’ show equal status.

14. (1) The soul certainly sympathizes with the body and shares in its pain whenever it is injured by bruises, and wounds, and sores; (2) the body, too, suffers with the soul and is united with it whenever the soul is afflicted with anxiety, distress, or love, testifying to its shame and fears by its own blushes and paleness. (3) The soul, therefore, is proved to be corporeal from this intercommunion of susceptibility.¹⁴

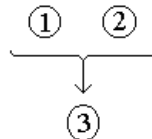


Figure 14: Indicator(s): therefore.

¹²John Postgate, 3rd ed. *Microbes and Man* (Cambridge: Cambridge University Press, 1992), 213-4.

¹³Postgate, 233.

¹⁴Tertullian, *De Anima*, Book V.

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15. (1) Spinoza defines God as identical with the universe and all the mind and matter in it, subject to its laws, (2) and hence unable to intervene in the order of events. (3) In consequence, Spinoza was harshly condemned by some as an atheist but praised by others for seeing God in all things.¹⁵



Figure 15: Indicator(s): hence; in consequence.

16. (1) Also, keep in mind the body has a limited ability to recover from physical activity; (2) therefore, if you continue to engage in moderate- or low-intensity exercise, after you hit the high point, you will be short-circuiting your progress (3) because you'll be overextending your body's recuperative ability.¹⁶

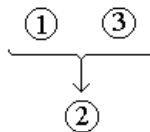


Figure 16: Indicator(s): therefore; because. (Translation required.)

17. (1) For the pagan the highest duties of morality and religion met in the state, symbolically in the person of the emperor, who was at once the supreme civil authority and a divinity. (2) For the Christian the duties of religion were a supreme obligation, owed directly to God, and the outgrowth of a relationship between a spiritual deity and the spiritual essence in human nature. (3) The interference of an earthly force in this relationship was something which a Christian could not allow, (4) and for this reason Christianity raised a problem which the ancient world had not known—the problem of church and state.¹⁷

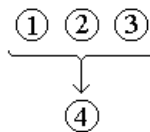


Figure 17: Indicator(s): for this reason. (1), (2) start with prepositions.

¹⁵Adapted from Morton Hunt, *The Story of Psychology* (New York: Doubleday, 1993), 69.

¹⁶Bill Phillips and Michael D'Orso, *Body for Life*, (New York: HarperCollins, 1999), 61.

¹⁷Adapted from George H. Sabine, *A History of Political Theory*, 3rd ed. (London: George G. Harrap, 1963), 185.

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18. (1) Freud came to believe that what was true of neurotics was equally true of normal people. (2) The latter, however, developed in such a way that their unacceptable desires, hidden from awareness, were converted into acceptable ways of action. (3) Thus, healthy behavior, like pathological behavior, was motivated and directed largely by the forces of the unconscious.¹⁸

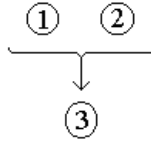


Figure 18: Indicator(s): thus.

19. (1) Plato said the oligarch is interested in the protection of his property and the collection of his debts whatever hardship this works upon the poor. (2) The democrat is prone to schemes for supporting idle and indigent citizens at public expense, that is with money taken from the well-to-do. (3) Thus in even the smallest city there are two cities, a city of the rich and a city of the poor, eternally at war with each other.¹⁹

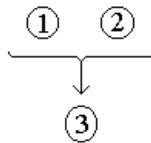


Figure 19: Indicator(s): thus.

20. (1) According to the *Gita*, meditation and reason can lead to ultimate absorption in the godhead; so too can the selfless fulfillment of everyday duties. (2) Since the *Gita* also stressed bhakti, which focused on adoration of a personalized deity as a means of achieving unity with it, and (3) since this answered a fundamental emotional need, (4) the *Gita* swept Hinduism to final supremacy in the sixth and seventh centuries.²⁰

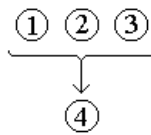


Figure 20: Indicator(s): since.

¹⁸Morton Hunt, *The Story of Psychology* (New York: Doubleday, 1993), 186.

¹⁹Adapted from George H. Sabine, *A History of Political Theory*, 3rd ed. (London: George G. Harrap, 1963), 44.

²⁰Horst de la Croix and Richard G. Tansey, *Gardner's Art Through the Ages*, 6th ed. (New York: Harcourt Brace, 1975), 811-2.