

ToK Essay

“There is no reason why we cannot link facts and theories across disciplines and create a common groundwork of explanation.” To what extent do you agree with this statement?

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Interdisciplinary studies are often utilized as a route to creating broad frameworks of explanation. Interdisciplinary studies connect theories and facts across disciplines. A theory may be defined as an understanding which is justified by sufficient evidence, and although it has not yet been disproven, still retains some level of doubt. A fact, meanwhile, may be defined as information which is justified beyond doubt. Knowledge includes, but is not limited to, facts and theories. The interdisciplinary synthesis of facts and theories from ethics and history are linked to form the basis for modern justice systems. Similarly, facts and theories from mathematics and the natural sciences are linked for the creation of medical technology. However, discrepancies may exist when trying to link facts and theories across all disciplines. For example, religious knowledge systems may advocate justice systems that contradict widely accepted norms for human rights. Also, diseases defined as biologically 'incurable' may be viewed as reversible by indigenous knowledge systems. Therefore, although related facts and theories can sometimes be linked across areas of knowledge to create a common groundwork of explanation, there are also some discrepancies in which areas of knowledge contradict one another.

The field of ethics is grounded in intuition and logic. For example, one may intuitively feel that killing an innocent child is morally wrong. Similarly, with the premises that all people are born equal and that one might entitle oneself to certain human rights, it can be logically concluded that all people are entitled to these same rights. Judgment of what is 'ethical' is intrinsic in any justice system. However, the interpretation of what is 'ethical' within justice systems has changed over time. Once, slavery, racism, and sexism were believed to be morally permissible. Today, the Universal Declaration of Human Rights, unanimously adopted by the United Nations General Assembly on 10 December 1948, explicitly declares that, "All human beings are born free and equal" ("Universal"). However, there are still nations who have yet to adopt and/or observe the principles of the Declaration. Thus, the application of the field of ethics within justice systems varies by time and by place. History plays an important role in justice systems. Changes in a justice system are brought about by people using occurrences of the past

as a basis for how justice should be established in the future. For example, the Declaration was created as a response to atrocities committed during WWII and has a basis in principles derived from existing justice systems (Ibid.). Justice systems are thus a synthesis of knowledge based in both ethics and history. However, the base principles for justice systems, as denoted by the Universal Declaration of Human Rights, are contradicted by some religious knowledge systems. For example, the Qur'an describes how for any woman guilty of 'lewdness,' one must "confine them to houses until death do claim them" (*The Qur'an* Sura al-Nisa 4:15). Contrastingly, with men who are guilty of 'lewdness' it dictates that, "If they repent and amend, leave them alone" (Ibid. Sura al-Nisa 4:16). The Universal Declaration of Human Rights states that, "All are equal before the law" ("Universal"). Qur'anic law presents a clear discrepancy. In conclusion, a common groundwork of explanation for justice systems is presented by the Universal Declaration of Human Rights, which is based upon knowledge from ethics and history. However, this may be contradicted by some religious knowledge systems, thus revealing discrepancies in linking all disciplines through this groundwork of explanation.

One might argue that since the field of ethics is based in intuition and logic, that which is 'ethical' does not change with time. Therefore, the formation of justice systems depends only on ethics and is not dependent on history. In Plato's Socratic Dialogues, Socrates argues that, "people will naturally do what is good provided that they know what is right, and that evil or bad actions are purely the result of ignorance" (Mastin). Doing 'good' is thus intrinsic in human nature and does not change with time. However, people must 'know what is right' in order to act in a 'good' way (Ibid.). Humankind's perception of what is 'right' has evolved throughout history. In fact, even the field of ethics has evolved. Greek philosophers viewed ethics as agent-centered; morality was based on the possession of virtues. In contrast, modern philosophers view morality as action-centered; specific actions are to be condemned and reflect immorality (Ibid.). Modern justice systems are thus a manifestation of the evolution of that which is 'ethical' and of an intrinsic human tendency to do what is 'right.'

Mathematics and natural sciences can also be linked to form common explanation. Medical technology uses a combination of biological theory and mathematics in order to research and treat health conditions. For example, Radon Transform's work in the field of mathematical discrete tomography forms the framework for the CT scan (Malkevitch). Transform's research revealed how unknown densities could be found through line integrals, which was then applied in the CT scan to find unknown densities within the body (Ibid.). Biological theories were also intrinsic in the development of the CT scan, such as how knowledge of anatomy is used to assemble CT scan images into a cohesive 3D model of the inside of the body (Mayo). However, medical knowledge widely accepted by the scientific community is contradicted by some indigenous knowledge systems, which claim that the body can heal itself. Traditional Chinese medicine "strives to cure disease by restoring that balance and therefore allowing the body to repair itself" ("Traditional"). Similarly, an ancient Indian healing tradition, Aruyveda, describes how the mind can "destroy any disease – cancer, diabetes, coronary heart disease – that has disturbed the design" (Chopra 2). In contrast, medical research reveals that some health conditions are, as of now, incurable. For example, there is still no scientifically-accepted cure for neurodegenerative disorders such as amyotrophic lateral sclerosis and multiple sclerosis (ALS Association; European Commission). Clearly, a discrepancy exists when trying to link medical knowledge with indigenous knowledge systems.

Some may argue that the idea that the body can heal itself has a valid scientific basis. Indeed, Cambridge professor Ted Kaptchuk did a study in which he discovered "that placebo treatments—interventions with no active drug ingredients—can stimulate real physiological responses" (Feinberg). Kaptchuk's research reveals that the 'ritual of medicine' can stimulate chemical responses in the body, such as increased dopamine secretion (Feinberg). Effects may include a lowered heart rate and reduced perception of pain" (Ibid.). Other studies expose that belief and mood can have a substantial effect on the subjective impression of pain (Novella). However, the so-called 'placebo effect' has only been

successful in treating cases that involve pain, fatigue, or depression (Feinberg). The *Society for Science-Based Medicine* asserts how there is “no compelling evidence that mood or thought alone can help fight off cancer or any similar disease” (Novella). Thus, those medical conditions labeled by health sciences as ‘incurable’ cannot be adequately treated with the placebo effect. While some symptoms may be treated, the notion that the body may heal itself from all diseases has no current scientific basis.

The linking of facts and theories across multiple disciplines is imperative for the forward movement of knowledge, as through combining the ways of knowing specific to each area of knowledge one obtains a wide array of tools that allow for flexibility in the acquisition of knowledge. Medical technology could not have been invented without the synthesis of mathematics and natural sciences. Similarly, modern justice systems are grounded in both the framework of ethics and the momentum of history. However, discrepancies exist, such as between modern justice systems and religious knowledge systems, and between natural sciences and indigenous knowledge systems. These discrepancies must be taken into account when creating common frameworks of explanation. After all, the placebo effect does have some scientific basis, although it is not valid as a cure for all ailments. In the end, although related facts and theories can sometimes be linked across areas of knowledge to create a common groundwork of explanation, there will still be some discrepancies in which the areas of knowledge contradict one another.

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