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# INTERDISCIPLINE? TOO MANY ANSWERS, NOT ENOUGH QUESTIONS

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*Interdiscipline*: n. An area of study which comprises elements of two or more branches of learning; an interdisciplinary subject.  
*Oxford English Dictionary*.

Interdiscipline as the word implies, is the area between disciplines, the knowledge gap that is assumed to exist between two areas of intensive specialized study. It is supposed to counter the inevitable fragmentation increasing specialization brings with it.

Curiously, the word does not exist in most dictionaries of the English language, and your spell checker will mark it wrong. The nearest approximation being the adjective interdisciplinary, or the cumbersome phrase 'interdisciplinary studies' so you must visit the complete *Oxford English Dictionary* to find a definition.

*In theory*, interdiscipline, the space between disciplines, is the most interesting of all subjects. Few topics are more fascinating to the inquisitive mind than boundary phenomena, the edge of what is known and the lack of knowledge in the gaps we have overlooked or not yet explored. Nor is this limited to the edge of the discipline, for every specialty is riddled with gaps and crevices that have been neatly plastered over in the mind of the initiated. After a while of working one discipline, we are no longer even able to see the gaps in our specialized knowledge, much as we no longer see the blind spot in our visual fields or hear a constant background noise of a train passing at regular intervals in the night. The mind likes an orderly 'field' without too many rocks, gaps or fissures

So beside *interdiscipline*, we may need to include *intradiscipline* as a separate field of study—I will come back to that.

*In practice*, however, interdisciplinary debate involves much wishful thinking. By putting a group of people from different disciplines together

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in a room it is hoped that their mere physical proximity will also bridge the deep canyons between their fields.

In general that is not going to happen. All specialists defend their chosen field as if they were grazing there, and feel apart from fear of invasion, a vast contempt for those of neighboring specialties; the closer these are, the greater the contempt. Parochialism in science is the order of the day. Discipline in itself implies a rigid set of rules of behavior and the social control over the fields often precludes real cross fertilization. The problem remains fragmented.

Almost a century ago, Ortega y Gasset dedicated an entire chapter of his book *La rebelión de las masas* to the “barbarism of specialization” and it is enlightening to re-read his observations and predictions in the light of later developments.

On the one hand, it is the prepared mind that will recognize the anomalies, but the mind of the specialist is often poorly prepared for receiving or accepting advice from other areas of knowledge.

The only possibility of breaking through this deadlock involves training the mind from the start. William Osler, probably the most well-known physician in the world at the end of the nineteenth century, recommended a “quinquennial braindusting” (*Aequanimitas—The Student Life*, p. 434, H. K. Lewis, London, 1914) returning to the university to study a new subject every five years to prevent the sanding over of the mind by routine.

Since someone encountering a new area or discipline for the first time is more likely to notice the gaps, I always advise students, interns and residents to keep a *book of questions*; a small notebook in which they jot down any questions that arise during their first months in a new area—the *why* and *what* and *how* questions they have been elaborately trained to ignore. Rudyard Kipling formulated this more neatly than any scientist ever could:

I keep six honest serving men  
 (they taught me all I knew)  
 Their names are What and Why and When  
 And How and Where and Who

Demonstrating that interdiscipline should really involve not only neighboring ‘fields’ but the whole of knowledge, and the humanities that are being phased out in many universities still have much to teach us.

This is an era of too much information; too many answers, but not enough questions. This request for *questions* often surprises them, for though many keep a notebook of answers in which they duly write the pearls of wisdom issuing from the mentors’ lips, they have never considered writing down the questions that continually arise in any inquisitive mind. In effect I am inviting them to provide their own interdiscipline

studies by comparing the new 'discipline' with already existent knowledge in their memory. One of the errors of education and especially specialist training is that it tends to ignore prior knowledge, preferring to indoctrinate the student as a *tabula rasa*.

Obviously, many of the questions are easily explained and as the months progress they are able to delete a large proportion of the questions, but some will remain. Some official 'facts' just refuse to neatly fit in with the rest of the individual cosmology, and rather than impose this knowledge I advise them to think these over carefully. To explore these and discuss them *in a non-threatening environment* is a most useful addition to the database of knowledge; the parts between the disciplines, and sometimes leads to new insights. Carefully examining these questions may be one of the few ways of discovering the gaps in one's own field; newcomers may stub their toes on irregularities we have long trained ourselves to ignore or evade.

Even though a consensus may exist among the experts, this does not necessarily mean they are correct, for in retrospect the experts have often been wrong, and there are powerful unifying forces at work in any academic discipline that swiftly filter out dissident ideas, as Thomas Kuhn explored in *The Structure of Scientific Revolutions*.

In the end, man *is* the measure of all things (Protagoras quoted by Socrates in Plato's *Theaetetus*). Each person must be considered to possess a unique knowledge field and thus a unique perspective of the world. Contrary to the teachings of physics, we are each of us at the center of our universe.