ABSTRACT. The article advocates a particular coherence theory of justification that emphasizes the significance of explanatory relations. It is shown that other approaches to coherence have failed because they underestimate the importance of explanatory theories in forming a system of beliefs. Additionally, a conception of explanation as a unifying substantial embedding of models is sketched that closely conforms with the proposed theory of coherence.

1. THE ROLE OF COHERENCE IN EPISTEMOLOGY

The concept of coherence plays a pivotal role in modern theories of epistemic justification. For many philosophers the justification of a belief $p$ consists in its coherence with the background knowledge $X$ (of a certain person) and in its contribution to $X$’s coherence. Even foundationalists in epistemology have to rely on coherence if they want to explain how nonbasic beliefs can be justified by basic ones. Empiricists, for instance, regard observational beliefs as basic, whereas all theories (for example in the natural sciences) must be vindicated by an inductive inference from observational beliefs. This is where the concept of coherence comes into play: the theories have to cohere with the data.

In view of the great significance of coherence in epistemology, it might well be expected to be the best analyzed concept in this area. Far from it. So far only a few advanced attempts have been made to define it more precisely or even propose a theory of coherence. Some approaches try – to my mind very unconvincingly – to give coherence a simple definition in terms of consistency or logical deducibility. Other philosophers, such as myself, admit that our research is still in its early stages and that we must settle the main intuitions about coherence. I would like to take the next step in this project.

One central intuition of my understanding of coherence is given by Laurence BonJour:

What then is coherence? Intuitively, coherence is a matter of how well a body of belief ‘hangs together’: how well its component beliefs fit together, agree or dovetail with each other, so as to produce an organized, tightly structured system of beliefs, rather than either

a helter-skelter collection or a set of conflicting subsystems. It is reasonably clear that this ‘hanging together’ depends on the various sorts of inferential, evidential, and explanatory relations which obtain among the various members of a system of beliefs, and especially on the more holistic and systematic of these. (BonJour 1985, 93)

Another important point of my explication of epistemic justification and coherence is a distinct separation from the project of defining knowledge, in which one only searches for special forms of justification and immediately gets into the deep waters of “gettierology”. And this is something I don’t want to touch upon here.

2. WHAT IS MEANT BY “COHERENCE”? 

I will start by investigating some key aspects of coherence and different approaches connected with these aspects.

2.1. Consistency is not Enough

In fact, although most epistemologists nowadays agree that the consistency of a belief-system alone is not enough for it to be coherent, many of them are unable to suggest what needs to be added to consistency to attain coherence. To highlight just how far apart consistency and coherence are, I will introduce my super-empiricist, who will accompany us in the following.

The super-empiricist avoids out of his noble empiricist reserve belief in any general assumption or theory about the world. He only accumulates his own observational beliefs. We do at least grant him a perfect memory on which he can utterly rely. He could, for example, have collected the following beliefs without any misgivings:

16.9.98:
1. 18.00[0]: In front of me I see the White House.
2. 18.00[1]: I see a BMW in front of the Empire State Building.
3. 18.00[2]: I see the centre of Leipzig before me.

etc.

Obviously, such a system of beliefs cannot be termed “coherent”, despite the fact that it is perfectly consistent from a logical point of view. After all, journeying to distant places within a second is not logically impossible; it is merely precluded by the laws of physics (not to mention the limitations of modern transport). Furthermore, even if we disregard the fact that no one can travel that fast, the three statements seem to be completely disconnected. The super-empiricist is very far away from having a coherent