

### Chapter 3 - Time-Images<sup>1</sup>

Somehow we know about time. We have some kind of image of time that informs us about it. This image of time may be fixed or it may change over time. If the time-image changes over time, it does so because time throws successive frames of us into existence with different time-images. When I remember that I recited Psalm 53 yesterday, this memory is an image of an earlier now. I also expect that I will recite Psalm 55 tomorrow. Without these time-images I would be locked in a present without a past or future; a present in which I have no knowledge or experience of time.

By itself, the presence of memories and expectations is not enough to give us an image of time. If we are not aware that we are expecting or remembering, then our expectation or remembrance is not a time-image. When I daydream about tomorrow or vividly re-enact a previous experience, I am in some sense actually in the future or past. In this case the future or past become *present* and lose their character of futurity or pastness. It is only when I come back to myself in the present that I realize I have been experiencing a fantasy or memory and not the real present. A true time-image is a combination of present and past, present and future, or past, present and future. I have to have some awareness that I am remembering at the same time as I am remembering; I have to be conscious of my situation in the present to intentionally direct myself towards an image of the past or future. If I am not rooted in the present, I cease to remember the past and start to re-live it instead.

A simple model of the time-image is offered by Augustine:

From what we have said it is abundantly clear that neither the future nor the past exist, and therefore it is not strictly correct to say that there are three times, past, present, and future. It might be correct

to say that there are three times, a present of past things, a present of present things, and a present of future things. Some such different times do exist in the mind, but nowhere else that I can see. The present of past things is the memory; the present of present things is direct perception; and the present of future things is expectation. If we may speak in these terms, I can see three times and I admit that they do exist.<sup>2</sup>

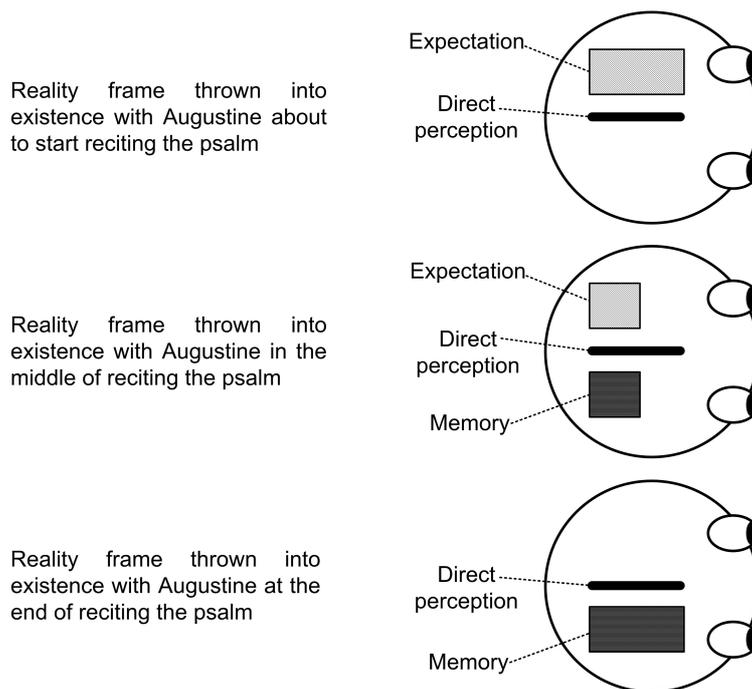
The three parts of the Augustinian time-image are the present of the past, the present of the present and the present of the future. All three are collected together within us at any point in time, and their content provides us with a definite location in time. For example, I can remember Monday yesterday, I am in Tuesday today and I expect that Wednesday will come tomorrow. The movement of an event from the present of the future to the present of the present to the present of the past gives us a sense of the passing of time. Two days ago I expected Monday to come tomorrow; yesterday Monday was today; today I remember that Monday was yesterday - Monday moves from the present of the future to the present of the present, and then to the present of the past. Augustine illustrates this using the example of a psalm, which moves from the present future (expectation) through the present present to the present past (memory):

Suppose that I am going to recite a psalm that I know. Before I begin, my faculty of expectation is engaged by the whole of it. But once I have begun, as much of the psalm as I have removed from the province of expectation and relegated to the past now engages my memory, and the scope of the action which I am performing is divided between the two faculties of memory and expectation, the one looking back to the part which I have already recited, the other looking forward to the part which I have still to recite. But my faculty of attention is present all the while, and through it passes what was the future in the process of becoming the past. As the process continues, the province of

memory is extended in proportion as that of expectation is reduced, until the whole of my expectation is absorbed. This happens when I have finished my recitation and it has passed into the province of memory.

What is true of the whole psalm is also true of the parts and of each syllable. It is true of any longer action in which I may be engaged and of which the recitation of the psalm may only be a small part. It is true of a man's whole life, of which all his actions are parts. It is true of the whole history of mankind, of which each man's life is a part.<sup>3</sup>

When this is interpreted within the cinematic model of time, we can see that successive reality-frames of Augustine reciting his psalm contain different distributions of the psalm between memory and expectation. When he has recited a quarter of it, there is a quarter present in his mind as memory, three quarters present as expectation, and a tiny fragment in direct perception. When he has recited three quarters of it, three quarters are present in his mind as memory, a quarter present as expectation, and a tiny fragment in direct perception. The psalm changes location or categorization within Augustine's mind as he recites it and before or after his recital there is no direct perception of it. This is illustrated in Figure 3.



**Figure 3.** Successive reality frames containing Augustine reciting a psalm

These different distributions of the psalm between expectation, perception and memory are different time-images in Augustine's head, which are fixed within each reality frame. Changes in this time-image come about because successive reality frames containing Augustine are thrown into existence with slightly different time-images. The time-image itself is atemporal; an immobile 'texture' within the reality-frame.<sup>4</sup>

The location of past time-images within the brain is well documented. Both implicit and explicit memories are correlated with activation in the basal ganglia, hippocampus, amygdale, entorhinal cortex, parahippocampal cortex and the perirhinal cortex.<sup>5</sup> These areas may be the location of the time images, but it is more likely that they are needed to activate time images in other areas of the brain, such as the visual cortex. What is clear is that when these areas are damaged, the time images are damaged as well. For example, after a brain infection, patient Boswell's present of the

past became extremely limited. When he recites a psalm he is unable to describe even the main points of the text that he has just read.<sup>6</sup>

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1 Deleuze uses the terms “time-image” and “movement-image” in his books on cinema, but I will be using them in a different sense here.

2 Saint Augustine, *Confessions*, translated by R. S. Pine-Coffin (London: Penguin, 1975), p. 269.

3 *Ibid.*, p. 278.

4 A much more sophisticated phenomenology of time perception can be found in Edmund Husserl, *The Phenomenology of Internal Time-Consciousness*, edited by Martin Heidegger, translated by James S. Churchill (Bloomington & London: Indiana University Press, 1966). The temporal phenomena described by Husserl can also be re-interpreted as changes in a sequence of static reality-frames.

5 ‘Activation’ should not be taken in any temporal sense. A neuron is active or ‘firing’ when it has a certain chemical composition and inactive when its chemical composition is different.

6 A. R. Damasio, D. Tranel and H. Damasio, ‘Amnesia caused by herpes simplex encephalitis, infarctions in basal forebrain, Alzheimer’s disease and anoxia/ischemia’, in F. Boller & J. Grafman (eds.), *Handbook of Neuropsychology* (New York: Elsevier, 1989), Volume 3, pp. 149-166.