

## Affective Trajectories in Acousmatic Music: An Identification Task for the Acousmatic Composer

Adam Karl Melzer<sup>1</sup>

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One of the most significant compositional challenges in acousmatic music is the ability of a composer to craft a desired affective trajectory. This paper explores an identification toolkit, designed for the acousmatic composer, as an exercise in recognition regarding links between material and affect. In turn, the identification toolkit is also investigated as a useful compositional reference for an acousmatic composer's craft.

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Keywords—acousmatic, affect, composition.

### I. Introduction

One of the most significant compositional challenges in acousmatic music is the ability of a composer to craft a desired affective trajectory. As acousmatic music focusses on sound as material, abstractions can quickly become disorienting if not handled with care. Consequently, steps have been made to aid acousmatic composers with structure. For example; Blackburn (2009, 2011) attempted this very aim by inverting the spectromorphological paradigm, so that spectromorphological vocabulary could be used to craft visual-sound structures. However, this practice, whilst beneficial for organising material, does little to address the larger affective trajectory. The onset of material and its subsequent transformations instil specific psychological interpretations, and without a detailed exploration into their affective implications, composers may incidentally undermine their own compositional intent. Thus, to aid acousmatic composers, I have developed a simple identification task to be explored in this paper. In detail, the task focusses on facilitating recognition between material and specific affective experiences, based on comprehensive and inter-subjective data from affective psychology. The task hypothetically will provide an acousmatic composer with a strong knowledge of the material that they possess. Furthermore, it will hypothetically inform a composer how they can craft that same material into an affective trajectory.

### ii. The Circumplex Model

The identification task adapts aspects from the circumplex model of affect. In order to progress, we must understand how the circumplex model works, and this is best described through a literary excursion into the field of affective psychology. Russel (1980) first detailed the circumplex model of affect, as seen in Figure 1. It features a duality of affective processes that both occur in response to a stimuli. It is conceptualised simply in a graph form; the affective process of activation, as on a y-axis, is considered to be in relation to the affective process of valence, as on an x-axis. Activation can be defined as the perception of energy in a stimuli, whilst valence can be defined as the perception of the stimuli's attractiveness or unattractiveness. It should be noted that valence is often thus a by-product of socio-cultural conditioning. Both affective processes work in conjunction with one another in order to create specific affective experiences for an individual. The model's testing in development was comprehensive, with 343 self-reports analysed, and revealed that affects can be interpreted as inter-subjective data (Russel, 1980). Since its inception, the circumplex model has been widely used and, in fact, the model remains a predominant pillar in music and emotion studies. Musical material, as sound, is comprised of multitudinous stimuli, so the model pertains to it (Eerola & Vuoskoski, 2013). Thus, the circumplex model of affect is useful for detailing affective experiences, particularly within the context of music.

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<sup>1</sup> PhD Student, University of Sydney, Australia, [adammelzer@icloud.com](mailto:adammelzer@icloud.com)

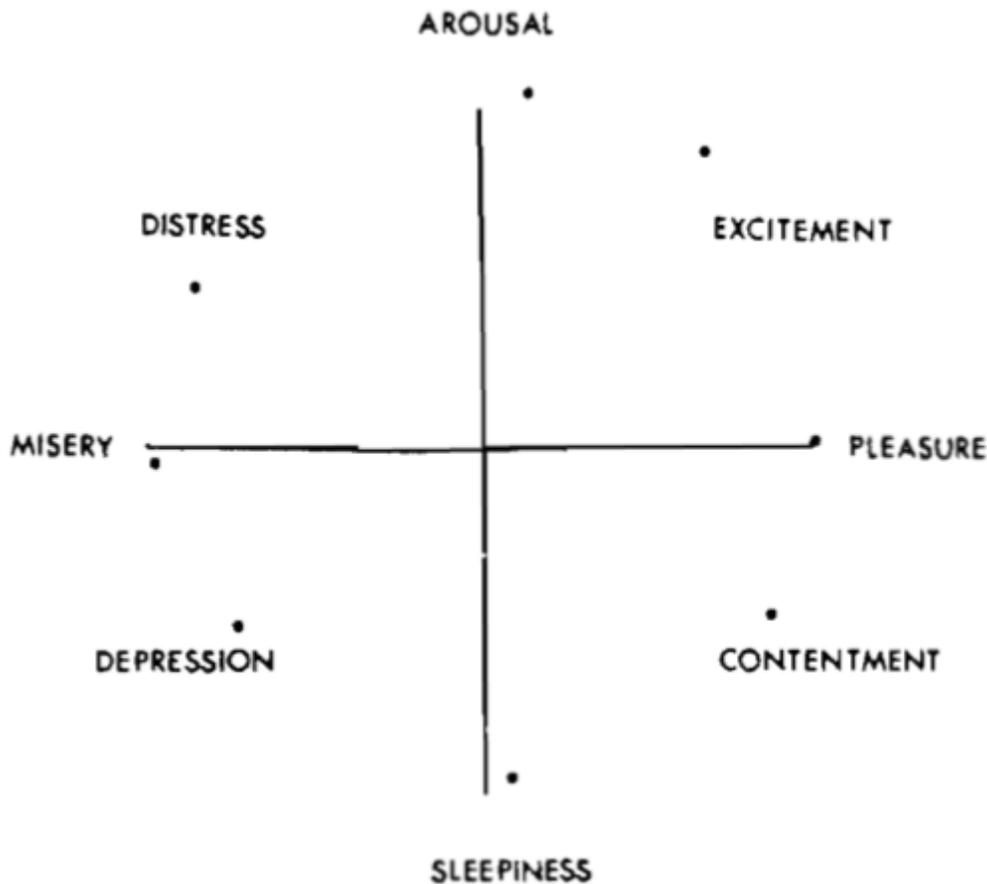


Figure 1: The Circumplex Model of Affect (Russel, 1980, pg. 1164)

### iii. Methodology

The identification task adapts aspects of the circumplex model and retools them into an exercise for the acousmatic composer. To enact the identification task, the composer must simply classify a recorded sound immediately after listening to it. Upon completion, the composer may transform the initial material and undergo the same aforementioned process. All data should be correctly labelled and collected on a graph reminiscent to that of the circumplex model shown in Figure 1; activation, as on a y-axis, considered to be in relation to valence, as on an x-axis. Through the accumulation of data, the composer will hypothetically gain a great depth of knowledge about the affective possibilities that arise from the material and its subsequent transformations. In turn, this knowledge can then be translated into standard acousmatic compositional structure techniques. Hypothetically, this will allow a composer to ensure not only sophistication in structure, but a corresponding and desired affective trajectory.

The identification task naturally requires testing. As each use of it is an individual experience, an individual test of the task is adequate in asserting its validity. Thus, the remainder of this conference paper will detail my own experiences in using the identification task.

### IV. THE IDENTIFICATION TASK IN PRACTICE

I tested the identification task on a recorded finger snap (initial/blue). I subsequently created four transformations of the initial snap.

The first transformation (1/grey) was a pitch shift upwards by approximately an octave. The second transformation (2/black) was a pitch shift downwards by approximately an octave. The third transformation (3/green) used an envelope to increase the attack of the snap. Finally, the fourth transformation (4/orange) used a synthetic reverb to shroud the attack and elongate the material.

All levels of the snap and its transformations were equal, and they all shared a master limiter. See Figure 2 for details.



Figure 2: My Logic Session

Figure 3 indicates my results using the identification task. I have learnt that whenever I heard a high presence of attack and/or higher frequencies in the snap or its transformations, I would associate that with a higher activation. I also tended to perceive these characteristics with a negative valence. Conversely, whenever I heard slower envelopes, reverb and lower frequencies, I perceived a lower activation. Interestingly, these characteristics I also rated more positively.

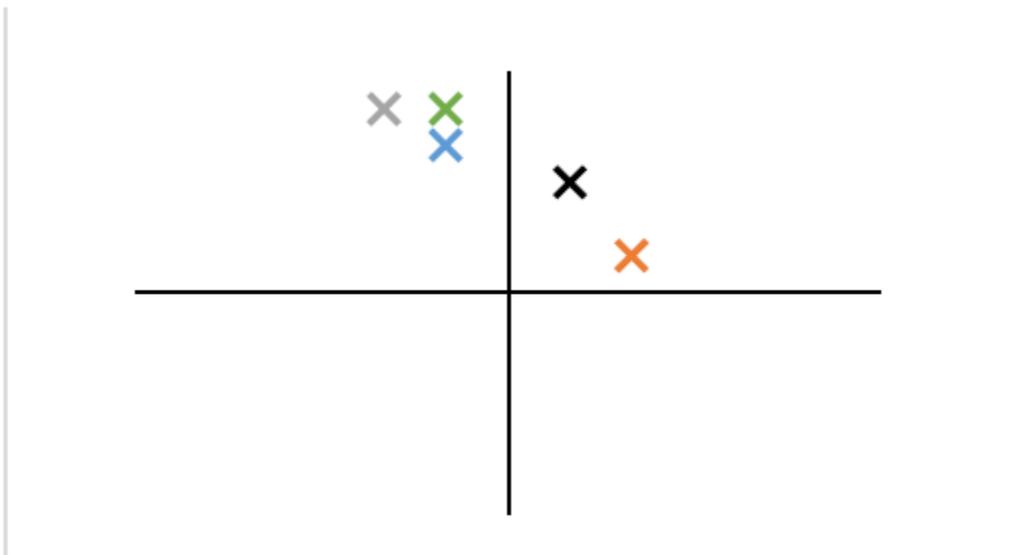


Figure 3: My Results Using The Identification Task

With the outlined knowledge that I now possess, I can easily craft an affective trajectory with this material. If I wish to craft the affective trajectory whereby a feeling of tenseness transitions to a feeling of pleasure (please refer to Figure 1 and Figure 3), I now know that I need the present material to transition from attack and higher frequencies to slower envelopes and lower frequencies. Furthermore, this trajectory would be aided by the introduction of space through reverb, and the elongation of material over time.

As the identification task is based on inter-subjective data, it is safe to assert that my own treatment of material will craft a desired affective trajectory not only for myself, but for most listeners. Having said that, there will always likely be outliers and so uniform response is regrettably an impossibility.

Overall, the identification task has proven itself to be very revelatory for my own compositional craft. I have now identified nuances within the music that I listened to as producing certain affective experiences, and I can easily adapt that knowledge to produce desired affective trajectories in my own compositions.

## V. Conclusion

The identification task is a useful exercise, and an excellent compositional reference for acousmatic composers. Acousmatic composers are strongly encouraged to use this model to aid their own works, and in their training. Through recognition, composers will draw links between material and affective experiences. This knowledge can easily be translated into their own compositional craft, enabling them to produce desired affective trajectories.

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