Instruments, Interactivity, and Inevitability

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It is astonishing to think that a mere twenty years ago, real-time music production and performance was not only in a fledgling state with only primitive (such as the IRCAM 4X machine) or limited (like the Synclavier) capabilities, but was also the subject of very heated debate. At IRCAM in the early 1980's, for instance, some (such as Luciano Berio) questioned whether any digital technology could ever be truly "instrumental", while others (such as Jean-Claude Risset) doubted whether real-time activity of any sort would ever acquire the richness and introspection of composition.

Now of course the pendulum has swung to the other extreme, as is demonstrated in the diverse and exciting offerings of this very conference. Entire fields of interactive instruments, musical controllers, and responsive environments have developed with amazing speed, and we – as a community – have come adopt the controller/computation/content metaphor that underlines most of our designs and environments.

That so much innovative work could be produced by so many different people in so many different places, and in such a short time, is both cause for rejoicing and also a solid justification for founding a conference like NIME and consolidating discussion in our research and creative community.

Yet as a composer and designer, I am somewhat uneasy and dissatisfied with the current state of the art, in my own work as much as in what I see around me. While we have been successful in designing controllers and interactions capable of virtuosity and subtlety, the best of these – in my view – have been customized for particular compositions, performances, or performers, and have not been standardized in a way that I associate with "instrumentality". And while many have also been successful in designing controllers and interactions that "hook" a novice user, even in distracting, high-powered public spaces, few have been able to make such systems "nourishing" as well, capable of encouraging deeper exploration and continued discovery and creativity.

So it might be a good time to question the "inevitability" of new controllers and interactive music systems in a number of ways:

- How do we create controls and interactions that feel "inevitable" to expert and amateur users?

- How do we teach audiences to understand and appreciate the virtuosity and musicality of new instruments and interactions, and the "inevitability" of their design?

- How do we create new music, which grows "inevitably" out of the controllers and instruments that produce and perform it, feeling fresh and alive rather than arbitrary and contrived?

- And how do we create interactive situations that stimulate rather than placate, leading the participant beyond the surface and into thoughtful consideration of rich, expressive, meaningful experiences?

For in some ways, we risk being done in by our own successes. Interaction is "sexy" and our controllers attract easy attention. Our field is no longer marginalized, but is part of a growing wave of immersive, participatory experiences in all domains.

All the more reason that this is the essential moment to evaluate our progress, to discuss openly why it is so hard to get to the next step - which would produce truly "inevitable" instruments and meaningful, necessary interactions, and to lay the groundwork for the difficult, vaguely unglamorous, but truly rewarding work that lies ahead.

If we don't do this now, we risk having the whole field of interactive expression become an historical curiosity, a bizarre parallel to the true pulse of cultural growth. It needs all the effort and imagination that we can muster to assure that new controllers and interactive instruments indeed become the inevitable continuation of musical expression that we all take for granted.