As interest in the field of public art continues to grow and "perceptual art" programs multiply at state and local levels, there is an increasingly apparent need to establish a critical framework for evaluating art projects. The public-art component of the science complex provides an opportunity for exploring both the potential of this nascent field and the problems that beset it.

The announcement for the science complex art program asked artists to "participate in a collaboration with the architects" despite the fact that by the time proposals were invited, the buildings had been designed. Clearly, collaboration would have been difficult at this stage, but an examination of three of the largest projects shows that artists met with various degrees of success at integrating their art with the architecture.

A hammered-copper sculptural portrait of physicist Edward Condon, placed midway up on a corner tower of Cascade Hall, is visible from a pedestrian bridge linking the Volcanology Building and the new Cascade Hall. This and 11 other similarly sized and constructed gargoyles are scattered throughout the complex on exterior walls, usually near the second story. Created by Wayne Chabre, all the pieces address issues of science, either by offering portraits of scientists or by depicting animals associated with scientific inquiry. Chabre settled on specific people and themes after talking with University scientists.

The sculptures are rendered in a straightforward, realistic style, much like the expressive manner pioneered by Auguste Rodin in the late nineteenth century. These well-made and convincing pieces can be seen within the tradition of architectural sculpture. Their tone varies enormously; the most successful pieces offer unexpected images like the iconoclastic and endearing portrait of Albert Einsein with his tongue sticking out (taken from a photograph of the scientist celebrating his 72nd birthday). The sculpture of the fruit fly, at a highly
magnified scale, transforms this tiny laboratory organism into a baroque grotesque. The image of James Clerk Maxwell is supplemented by a self-portrait of Chabre, who nestles in the head of the great nineteenth century physicist.

The most successful sequence of sculptures occurs at the corner tower of Willamette Hall, on which the sculptures Sir Isaac Newton and Maxwell and His Daumas are placed. The scale of the wall is small enough not to dwarf the two images and their placement enhances the tower’s position as a gateway into the science complex. Similarly, the sculpture of Einstein is placed over a doorway, well framed within a recessed entrance.

In general, however, the sculptures’ placement is highly problematic. Their distribution seems random rather than deliberate: Some are sited on corner towers, others are placed on or between pilasters and other vertically articulated masses, and one is affixed above a doorway. Chabre had no choice but to tack his pieces onto a completed architectural design that makes no provision for including sculptures: no system of niches or arches that might accommodate such enhancements.

Without an architectural gesture toward integration, these 12 small pieces appear lost and overwhelmed, uncomfortable and unwelcomed. They are out of scale with the space around them and the fruit fly and zebra fish are placed so high that it is hard to read their complex forms. A simple framing system within the brick courting would have improved matters considerably, and an identification system would well serve the purpose of commemoration inherent in these pieces.

Alice Wingwell’s fountain is clearly the most successful project and the one most in harmony with the context of the science complex. This is due in large measure to the autonomous nature of the fountain itself and its careful siting at the periphery of the complex, next to established buildings and connecting to the campus beyond. The second-level pedestrian linkage also reinforces a basic design element of the complex. The attitude of bridging is carried into the form of the fountain, whose strong rectangular shapes echo adjacent architectural elements.

The water starts in a pool at the second-level pedestrian walkway, drops down a few feet to a small holding pool, then cascades over two waterfalls to another pool at grade. Some of the water glides over the lip of the holding pool with a soft, lapping effect, then falls into the lowest pool, the rest tumbles through a channel spout and spills vigorously into the lowest pool. A sitting wall surrounds the pool on three sides, and stairs wrap around the cascades.

Rock specimens, many contributed by geologists working in the adjacent buildings, are placed randomly within the channelled fall and collection pool. Some of the specimens are in their natural state; others have been shaped and milled into rectan-
gular forms — generic building blocks, perhaps. Such materia-
als speak directly to the field of geology housed within both
buildings and provide a metaphor for intellectual inquiry and
human action in general, honing natural resources into human-
made shapes. The fountain walls are covered with tiles similar
to those used in the buildings, providing another linkage.
The fountain projects well beyond its immediate
surroundings; one is aware of the fountain’s presence before
one can see it. Once encountered, the fountain offers an oasis,
with the sound enclosing the space. One is invited to sit on
the wall surrounding the collecting pool; however, it is diffi-
cult to sit on the wall along the waterfall because of a handrail
that makes jumping onto the wall awkward. (If the intention
were to include seating, the wall should have been designed to
be more inviting and comfortable — perhaps lowered several
inches and without a handrail.) Seating could have been made
available at the landing. If the intention was to discourage sit-
ting — hopefully this was not the case — the retaining wall
should not have been made wide enough for sitting.)
During my visit the concrete steps were not complete and
three-quarters of the way down temporary wooden steps had
been installed. The transition from concrete to wood was
startling. When I stepped on the wood and felt its
response, I associated it with the water and stones in the foun-
tain and felt the oasis effect even more strongly. Perhaps a sys-
tem of wooden steps would have improved the project over
the ordinary concrete steps now in place.
Kent Bloomer’s contribution, one of the most ambitious,
comprises two elements: Physics Wall, a floor-to-ceiling instal-
luation within the atrium, and a series of lamp posts that starts
in the atrium and continues along several paths outside.
Physics Wall is a system of steel elements affixed to columns
that support bridges connecting buildings on either side of the
atrium. At ground level, steel plates clad the base of each col-
umn. The plates are punctured by a system of back-lit holes
simulating the structure of atoms, thus unifying the founda-
tion of science (atomic order) with architectural function.
Four steel tubes emerge from each column base and flank
the columns as they rise upward; a series of “capitals” tor-
nates their rise at the second floor handrail. These “capitals,”
illuminated from an internal light source, are reminiscent of
geodesic domes. Constructed in outline form by the use of steel bands, they can be seen as a generic molecular model.

A single tube, centered on the flat face of each column, leads one's eye up to the fourth floor. There, a complex tracery of tubes and star-shaped flat forms fans out from each column and unites into one sweeping network. The overall effect is of a cloud of particles that is equally convincing whether regarded from a macro perspective (astronomy, which in fact is housed on the fourth floor) or a micro perspective (protein crystallography, housed on the third floor). Finally, a painted frieze on the outside of the stairway that crosses the wall diagonally refers to the double-helix pattern of a DNA molecule.

Physic Wall required more cooperation from the architect than any other art project. Bloomer requested that the columns not continue to the roof as originally planned, but stop at the fourth-floor balcony. This would result in less visual interference with the gallery of laser-cut stars. Lighting and electrical systems had to be rethought to accommodate elements of the piece. Bloomer also worked closely with color consultant Timi Beebe in designing the colors for the stairway frieze. Finally, the boxing capacity of the ceiling members had to be increased for the cables supporting the stars.

The logistics of Physic Wall are formidable and its scale enormous. Conceptually, the piece is logical, with images at each level referring to the disciplines working in the labs beyond, and with modulating references from the earthbound base to the skies above.

However, the visual character of the project does not live up to these ambitions. The materiality of the steel remains obdurate, though it is called upon to provide reference to a host of ideas. The steel is especially problematic on the lamp posts, in which organic and elegant forms are encased in a material as cold as the warm brick atrium. The intellectual association is clear, but never convincing enough to engage me in a more thorough relationship, one that merges metaphor and function, meaning and materiality.

The major component of the piece, the cloud of stars, must compete visually with the heavily articulated ceiling, a backdrop that remains highly inhospitable to this airy sculpture. Also, examples of protein crystals in display windows on the third floor reveal forms more complex and less predictable than the ones designed by Bloomer. A more energized and dense system might have alleviated these problems.

Many of the sciences housed within the science complex are themselves pursuing a form of collaboration. Boundaries between established disciplines in science are at a greater or lesser degree artificial, if not archaic. Previously isolated fields are now most meaningfully pursued in the context of an enlarged perspective; "geo" now serves as a prefix not only for geology but also for geophysics, geochemistry, geobiology and the like. In most fields the extreme specialization that has characterized the past century and a half can be seen as an aberration, a parting from traditions of inclusion and connectedness. Modern notions of specialization now appear naive, if not outright impractical.

The architectural plan for the science complex is responsive to this state and seeks to facilitate exchanges among the various disciplines it houses. Common rooms are strategically placed within connecting corridors and pathways, both at grade and at elevated levels, and encourage passage from one discipline area to another. Furthermore, the buildings themselves are unified through the use of materials, scale and style. Both functionally and symbolically, the architecture amplifies and reflects the notion of collaboration in the sciences.

Collaboration and interdisciplinary practice occurs in the social sciences, humanities and arts as well as in the physical sciences. Certainly the building arts were for most of Western history comprised of many skills, including all practices integral to each project's development and evolution. The position and function of art and ornamentation were considered as basic in the form of space and disposition of mass. But the advent of Modernism and its reductive inclinations created an enormous rift between art and architecture, with each discipline determined to discover its own pure form and purpose. The changing tides of history that have helped move the scientific community toward more interdisciplinary perspectives have also affected the ways in which we look at how buildings and cities are planned and built. Collaboration and cooperation among artists, architects, designers, engineers and planners calls into question longstanding demarcations among these disciplines.

Within the past decade artists have increasingly participated in the design of the built environment. The manner and degree of their participation varies enormously, from the last-minute decorative gesture to full-scale collaboration.

Unfortunately, the involvement of artists in the design of the science center occurred after the completion of the design development drawings. In essence, artists were invited to submit proposals for "building-integrated" or "site-responsive" projects after the buildings and their adjacent spaces had been fully detailed. Such an arrangement does not necessarily preclude artists from making outstanding contributions to a project, but it increases the chances that their contributions will be more additive than integral.

The buildings themselves were conceived after a thorough series of discussions among the user groups, university repre-
sentatives and the architectural team. Indeed, this idea of intense dialogue is a hallmark of the University's approach to design. Such intensive briefing and context setting was not, however, used to familiarize artists with the project and its relationship to the rest of the campus.

Furthermore, the artists were not convened to work together, to discuss one another's ideas, or to consider ways in which the entire art program might be developed in a unified manner. Specifically conceiving each artist's contribution as an individual statement deprived the science complex of a more integrated and comprehensive art program. Some collaboration did occur when projects were being built, as between Beebe and Bloomsom, and between Scott Wyile (designer of tilling for Science Walk) and Alice Wingoall (whose fountain is a terminus for Science Walk).

Science Walk, the one project that addresses the need to integrate the various buildings and spaces of the science complex, was under construction when I visited. Science Walk has the potential to help unify the art program, lending it more authority within the science complex than it currently has.

The science complex is a prime example of good intentions producing work less satisfying than they should. The process of collaboration among disciplines is well established in the sciences; there is no reason why such a relationship is not possible between artists and architects.

A wonderful example on campus of such a partnership is Knight Library, built in 1935. This highly ornamented eclectic Beaux-Arts structure, designed by long-time campus planner Ellis Lawrence, has a programmatic approach to art-work that is integral to the architecture. Inscription panels are placed directly over windows, basins are placed within alcoves and niches, murals receive architectural framing at key locations and other detailing, such as light fixtures and benches, are woven into the design fabric. The effect is one of integration and unity, an accomplishment possible only through mutual planning among all parties from conceptual planning forward.

Certainly artists working today welcome the opportunity to participate at the conceptual development phase, although they probably would demand a less confining role than that offered to those who contributed to the library. The science complex takes many of its cues from older buildings on campus, and while its sensitive incorporation of many of the materials, scales and attitudes of these other buildings is laudable, it would have been much more successful had the collaborative intent of buildings such as Knight Library also been honored.

Given that the complex was built for disciplines engaged in active collaboration, it is ironic that collaboration between architects and artists was not employed more effectively. Creating such opportunities is one of the key challenges for projects that seek to enrich public places with art.