Camera Movement, The Coming of Sound, and the Classical Hollywood Style

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Beginning with a simple, even naive question, may be an advantage, since the study of film history is in such a state that only a naive question has a decent chance of being answered. It is a commonplace that studio film production is ruled, at least in part, by business principles. Producers, as we say, are "cost-conscious," guided by budget, economy measures, and so on. But we also know that moving the camera during filming—that procedure which can produce the result we call "camera movement" on the screen—poses certain budgetary problems. Camera movement requires a large and more alert crew; lighting is much more difficult for a moving than for a static shot; focus must be followed, viewfinding must be accurate, the movement must (or so the rule goes) be smooth. Picture Stanley Cortez filming *The Magnificent Ambersons:*

> Walls moved on cue, and in went a light on a predetermined line, all while the camera was moving . . . . It gave the actors a little bit of a problem because they were trying to do their acting in the midst of all this going on . . . . To add to my problems some rooms even had mirrors. They had to be turned around on cue and turned back on a second cue, on hinges. . . . (Higham, 1970, p. 108.)

Now imagine this tiresome and time-consuming procedure applied to films after the coming of sound in the late 1920s. With the arrival of sound, the cost per film increased sharply; microphones dictated camera placement; sound technology altered camera design; the blimp made cameras larger and heavier, displaced the viewfinder (creating enormous parallax problems), and made follow-focus next to impossible. Yet by 1936 all these obstacles had been overcome and all-purpose dolly and crane mechanisms were in common use.

My naive question hinges on the contradiction I've suggested: Why, given the high additional costs and the technological obstacles, was camera movement ever a dominant studio film technique *at all?* Why, to put it more simply, did anybody bother?

One explanation readily suggests itself, though I know of no one who has advanced it in print. We can call it the Gadgeteering Theory. According to this explanation, the men at the studio shop are tinkering around, they hit on something that might be fun to try, and some adventurous director

or cameraman tries it. This is not as silly as it sounds. To read the technical journals is to find recorded a certain adolescent exhilaration in trying out peculiar contraptions. Hal Mohr's description of the infamous crane he used to film Paul Fejos's *Broadway* ("That thing could do everything but bake beans"), or James Wong Howe's pride that his design for a dolly was printed in *Popular Mechanics*, exemplify the pleasures afforded by a gorgeous hunk of machinery (Maltin 1971, p. 118.) But the Gadgeteering Theory lacks plausibility. With few exceptions, a Hollywood studio does not pay grown men to dream up outlandish equipment on the chance that someone might try it out; something else is being paid for. Moreover, the Gadgeteering Theory tends toward technological determinism: because the machines are available, they will be used, and they will shape their use. Though certainly there is a basement-chemist side to the history of film technology, we shall not understand that history in its complexity if we assume it to be a haphazard tinkering.

Turn to the standard histories and you will find another answer: the Heroism Theory. The assumption is that technology is invented at the caprice of businessmen, anxious to lure the people to "something new." The filmmaker is then forced to work within the constraints defined by the technology. But through boldness and persistence, the unusual filmmaker transcends the limits of the technology. The plainest statement of this position that I have seen is to be found in the section of Arthur Knight's *The Liveliest Art* called "Liberating the Camera":

> It is to the eternal credit of genuinely creative and courageous men like Ernst Lubitsch, Rouben Mamoulian, Lewis Milestone, and King Vidor that they had the ingenuity and vitality to circumvent the experts and lift the new medium out of the rut of dully photographed plays and vaudeville routines into which it had fallen. (1957, p. 151.)

The Heroism account trades on a "great-man" theory of history: a solitary, visionary filmmaker desires something and overcomes the objections of others. ("Slowly, the sound experts of Hollywood were defeated by directors with fresh ideas about the nature of the new art—and the prestige and stamina to fight them through" [Knight, 1957, p. 154].)

The major difficulty with the Heroism Theory is that it assumes that no one but a handful of geniuses wanted the camera to move. On the contrary, the evidence suggests that the inability to move the camera was generally perceived as a serious problem. As early as 1929, William Stull asserted that practically every studio technical staff in Hollywood was aiming to do three things: "1. To do away with the [camera] booth. 2. To restore the camera's mobility. 3. To eliminate the glass window" (Stull, 1929, p. 7). Moreover, as this passage suggests, camera movement became the object of rational research. Despite romantic anecdotes about the inspired director's asking that the camera be put on a bicycle or strapped

to the cinematographer's chest. in fact the studios' camera departments and the equipment manufacturing companies cooly and carefully set about cal Bureau.) A procession of such devices rolled through the 1930s: the coordinated by the Academy of Motion Picture Arts and Sciences Technical Bureau.) A procession of such devices rolled through the 1930s: the Bell and Howell "rotambulator," the Paramount "baby crane," the Fox "velocilator," the "perambulator," the Fox-Fearless "Panoram" dolly, the MGM crane of 1938. The directors were hardly fighting a recalcitrant technology; almost everyone, it seems, wanted to "liberate" the camera.

The intense interest in camera movement and the deliberateness with which it was developed belie the Gadgeteering and Heroism hypotheses. We must pose our question again. Camera movement was enormous trouble to innovate and sustain, and a lot of money was sunk into researching it. Again, why bother?

Just because the question is naive does not mean we can answer it easily. In a sense, the question is wrongly posed; we should ask what role camera movement plays in that complex phenomenon known as cinema history. This manner of posing the question puts the emphasis on the idea that camera movement is only a part of a much larger system. Let me try to suggest the functions of camera movement within two areas of that history: that of production economics and of representation.

Both the Gadgeteering Theory and the Heroism Theory implicitly set camera movement *against* production demands. But what if the technology of camera movement in the early sound cinema partially *grew out of* concrete production demands? The constraints of sound had added as much as two or three hundred pounds to the camera bulk; the old tripods of silent cinema could not support such a heavy unit, so new camera supports were needed. Moreover, the added weight would have to be shifted around the set; no longer could the cameraman simply pick up the camera and carry it. Something had to help the cameraman change setups. Hence the development of what were then called "mobile camera carriages"— means of simply transporting the camera easily from one point to another. At first, wheels were added to tripods; by 1929, dollies were generally available to bear the weight of the apparatus. Most important of all, these camera carriages were economical. On dollies and cranes, cameras could be quickly moved into place for shot after shot, thus saving labor and production time. According to a cameraman, the advantage of the Paramount crane was that "it speeds up production by an hour per day" (*Journal of the Society of Motion Picture Engineers* 1935, p. 10). A Fox executive claimed that the Fox dolly was "clearly a step toward the goal we are all striving for: better pictures at lower costs" (Seitz, 1933, p. 35). Thus there is reason to believe that the technology of camera movement was an outgrowth of rather than an antithesis to the coming of sound and that the machinery of the moving camera was welcomed as one way to trim rising production costs.

But the existence of the machinery does not mean that anyone will ever use it to film moving shots. A camera movement remains a troublesome, expensive shot. This is why we need, I think, a notion of cinematic representation—a mediation between "the industry," "the machinery," and "the filmmaker": not "style" in the usual sense, but the entire complex of film form that exists in a wide body of films. How space is established and developed in a scene, how the human body is filmed, how the order and duration of narrative events are presented—all these matters and more are related to the difficult but necessary concept of cinematic representation. What, we should ask now, does camera movement do representationally in a film?

Elsewhere I have suggested a start toward answering this question (Bordwell 1977). In its normal use, camera movement tends to eliminate any spatial ambiguities in the image and to specify a single profilmic layout and a unified perceptual viewing position. Perceptually, then, camera movement can be a powerful surrogate for the active locomotion which we surrender upon settling into our cinema seat. Camera movement also tends to yield an image of continuous order and duration of narrative events. All these features—coherent space, unified viewing position, narrative continuity—were canonized by the classical narrative style of filmmaking. We can, then, hypothesize that Hollywood seized on camera movement in the 1920s (generally, I believe, after 1925) and developed it against economic odds after the coming of sound because camera movement was needed for a specific representational system, that of an "illusory realism" related to narrative space and time. An analogy might be made to the star system. A star may be paid out of all proportion to his/her measurable labor on a film, but what is being bought is the star as a component of representation, a figure in a textual system. Camera movement may offer a phenomenon of this kind. Only the pressure of an ideology of representation can explain the cinema's large-scale investment in camera mobility. So integral does camera movement become to the representational system "cinema" that by 1950, when a director will not move the camera (as the early Warhol or the late Ozu won't) she/he is considered archaic, even "uncinematic."

A great deal, of course, remains to be done in developing this hypothesis. We must scrutinize the use of camera movement in Lumière's films, the development of the Akeley tripod in the late teens, the technological bases and stylistic functions of camera movement in the cinemas of Italy, Germany, France, Japan, and the Soviet Union. As a test case, we might look at the relation between German experiments in camera movement (*Last Laugh, Variety*) and Hollywood assimilation of those experiments (in *Seventh Heaven* and *The Crowd*), an assimilation contemporaneous with the emigration of German technicians to Hollywood; such a test case might help us concretely examine the interaction of the factors involved.

Our future work on the questions posed by camera movement must take into account the larger issues of the interrelations of technology, economics, representation, and ideology.

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Towards a Theory of Genre Film

Charles F. Altman

Any general theory of American genre film must begin with the fact that the average Hollywood product is a form of *entertainment*. To invoke the notion of "entertainment" is to call forth our Puritan heritage, according to which anything which is not *work* has no value; only productive activity deserves society's full sanction. Later generations relaxes their attitude toward entertainment, but entertainment still remained outside the sphere of desirable, productive activity.

Yet even our Puritan forefathers were constantly forced to condemn