Laying "the steadicam effect" to rest

by Jean-Marc Bringuier
Camera operator

Panaglide and Steadicam are tools a filmmaker may use to stabilize some of his views of the world. They are expected to free the creators’ minds of several of the old constraints of the traditional and subtle Art of dealing with the logistics of moving a film camera. Despite the looks of entranced zombies often displayed by their users, and various mythical tales spread by both devotees and detractors, Steadicam and Panaglide are not part of the supernatural. When used correctly, they should merge smoothly to the already abundant range of devices aimed at gliding a camera in space.

The proof of the pudding is in the eating. The only valid use of film equipment, however sophisticated or exciting, is to help tell a story or instill a visual atmosphere. It requires individuals to struggle with it. I’m not just hinting at the sweat dripping from the operator’s face (nor at the production manager’s pallor ... ) for Cinema will always be a team sport. It was certainly not the dollies used by Hitchcock which created the well-known suspense, through some hidden secret of their technology, but indeed the inimitable style of this Aristocrat of Vision. He knew how to float his relentless Eye, through the scenery and around his preys, blending actors, film technicians and machines in a subtle and oppressive harmony. All the rest is nothing but silly ironware...

Tinsel virtuosity

These two floating instruments still seem to be a hot issue, particularly in France. Their mere presence on a set sparks off, now and then, endless Gallic polemics, and tears of despair can occasionally he shed as a result of some of their uses. They happen to be double-edged: when correctly mastered, they can deliver very delicate visual arabesques, with the grace of a feather. But they can also abduct the meaning of the shot, inflate egos and lead the operator astray for many years.

Every serious camera operator will agree that fine-tuning his manual adaption to the traditional camera supports ("fluid or gear heads") is but a minute part of his task. As a demanding front-row spectator, he is concerned, above all, about making his visual and auditive attention even acuter and more responsive to every nuance of Comedy. The virtuosity of the classical operator can only take root in a field of rigor. Now using a carried-and-stabilized system such as Steadicam implies a thorough and frustrating re-learning of gestures, shooting postures and ways of monitoring the shot. But it does also entail, as a dreadful consolation, that novices quickly reach a point where they can start turning junk into tinsel, with a vengeance. This springy regression towards gaudiness swiftly sweeps away all previous subtleties. The disease (whose only known therapy seems to be years of hard training) strikes especially hard in the ranks of those who have poor graphic culture and little love of the Seventh Art. Its most insidious symptom seems to lie in the anaesthesia of any visual coherence. One suddenly catches the illusion of being capable of lasciviously doing everything by oneself, while soaring in a nirvana of smugness, from which you feel you might even look down on poor old Newton.

1- American stabilizing systems (using a purely mechanical articulated arm) enabling to carry the camera with a harness or to mount it onto any vehicle. The former is the Panavision version of the latter, which is manufactured by "Cinema Products".
2- Four-wheeled mobile platform which is pushed on tracks or on a flat and smooth ground and which incorporates a hydropneumatic raising column.
I personally remember my ecstasy when I started filming discussions around a table in "low mode" (camera suspended from an inverted Steadicam). I took a childish delight in hedge-hopping over dishes and snorkeling above table-cloths. I indulged in showy dips and rises of the camera, or in sophisticated translations of the lens around insignificant foreground objects. Deep down, I was after flashy "effects". Everything seemed great compared to the frustrations of the past: no more kneeling down, camera hand-held in a disastrously unergonomic posture, eaten up by the impossibility of sliding the lens sideways or bringing it to a decent low angle shot. It was at last possible to wolf down chunks of visual opulence while shooting from life. I felt in a roving mood, like a dolly going on a spree after having slipped away from its tracks. I even had bouts of egocentric fever, so much so I began to believe naively that I would always make do on my own, without the help of any grip.

"Snubbing" Gravity

The original pitfall of this instrument paradoxically seems to lie in the exuberant wealth of camera movements offered to a single camera person -three-hundred-and-sixty degrees in both tilt and pan, -fifty centimeters of optical booming range (increasable by merely bending the legs, or when stepping onto anything), -a lavish combination of translations and variable off-settings around the body (which makes it possible to pivot on any axis, and notably at the nodal point of the lens, thus enabling the operator to coil around obstacles, or to jib over sideways while tracking in tight quarters). To crown it all, these flourishes can be modulated ad infinitum wherever and however the operator may be moving, without fear of vibrations. This is quite sufficient to make many a head spin and to arouse many an itch.

To top it off, stabilization is not only achieved by springs and pulleys in the mechanical arm, but also hinges on a pendular-type configuration. It implies two masses (camera itself on top and the electronic black at the bottom, or the reverse in low mode) set at both ends of a tube, on which the isolating gimbal is set. Most of the operating takes place along this tube, near the point of balance. The art of steadicamming consists in snubbing Gravity in the most detached Zen-like manner, allowing a minimum of bottom-heaviness.

Controlling the residual inertia requires a delicate fingertip touch, while the unoccupied hand firmly places the stabilizing arm where it is desired in space. When correctly arranged, the whole structure in levitation is generally disconcerting, especially at the beginning. It becomes hypersensitive to any weight shift at camera level. Some even necessitate the use of special magazines in which the two kilos of the 35mm film roll can flow on a vertical path.

Just to avoid permanent tinkering with weight distribution (even adding a mere filter requires quick fine-tuning), some people feel better regressing to the coziest working position) are bound to get a few surprises, (in particular the adjustment of head-room) if they suddenly discover they have a crush on their cord. Onscreen, it ends up with a killing riot of pitching and rolling at any start or stop and when cornering to boot.

The spartan quality of the electronic image (picked up at the reflex finder system and sent to the steadicam small B and W monitor) makes a syncretic screen vision necessary. Watching the frame is obviously less convenient than through an optical viewfinder. A precise recce of fields and camera moves is more than ever a must, in order to ruthlessly hunt down any mikes, treacherous shadows, flares, reflections, continuity traps, and whatever else tends to fill the nightmares of any self-respecting camera person. It is worthwhile recalling that the steadicam operator doesn’t form one body with his camera which may, for instance, shoot backwards and at knee-height. This oblige the eye to sweep around, constantly on the look-out for precise navigational landmarks, both for oneself and for the lens. Concentration must really be global, for fear of stumbling over (and upon) every conceivable reason to bungle a shot.

It can easily be gathered that having a thorough and almost intuitive command of every usable lens is an absolute necessity. One has to interiorize them and get an instinctive feeling for their specific renderings of perspective and speed and for their different temperaments regarding strobing effects or optical distortions. Those among camera people, whose only effort to make out the language of optics is normally a matter of flabbily turning a zoom ring (from the coziest working position) are bound to get a few surprises, (in particular the adjustment of head-room) if they suddenly discover they have a crush on this tough appliance. It does give a lot... but forgives nothing.

A rigorous dance

The supple mobilization of the entire body (with more finesse than dumb muscle), allied to a keen knack for anticipating the actor’s moves (and
readjusting on the sly when he failed to hit his marks) are the requisites of a "dance" which can achieve a deadly precision and an incredible repeatability, through ascetic refinement. It seems to me that this feline and unobtrusive approach is the heart of one of the greatest assets of this tool over classical techniques, (although I must confess I'm still enraptured by dollies and gear heads...). The steadicam can really breathe with the actors while keeping a very close relationship with sets and props, especially in cramped quarters.

You can't forget, of course, that delivering startling subjective shots is a cinch with this device. They can be cleared of the jolts associated (and culturally admitted, for want of something better) with hand-held shooting. The identification of the audience with the onscreen action can operate, at last, with almost physiological fluidity. It so happens that everyone's brain spends most of its time (in the manner of a perfect Steadicam accommodating vibrations and maintaining the horizon stable, as when going about in a train or in an ocean-liner. The legitimate desire to translate a dramatic intensity onto the silver screen can take other ways than the mere unsteadiness of the camera

and an old cliche foisted onto the viewing public by newsreels and played out by the Nouvelle vague. On the other hand, Steadicam has occasionally been accused of a certain mawkish oiliness concerning its supposedly incorrigible gelatinous ways of dealing with any traveling shot. Without wanting to side with anyone on an issue involving directorial choices (as well as the operator's ability to modulate his shooting tempo and the quickness of his reactions), I would just like to recall that the stabilizing arm can deliver very credible P.O.V.s, for all tastes and fancies. The camera can take part in the plot of the Movie, almost physically. I have given up keeping track of blows to the matte-box (not to mention bursts of Kalachnikoff fire or amorous glances) that were shot at me, when on special duty, as well as those 1 had to fling back, just for the audience to get a chance to revel a little bit.

I completely agree with one of my French colleagues, who, in a recent article in a corporate magazine, stated that one should first be a decent camera operator, prior to tackling these intricate techniques. On the other hand, I take the liberty to be less peremptory in regard to the absolute contra-indication (out of metaphysical incompatibility?) he prescribes between Steadicam and "empty fields, very slow shots without any actor onscreen, implying obvious vertical and horizontal references." Every one remembers, among other instances of consummate utilizations, the end shots of Scorsese's "After Hours." The steadicam operator (Larry MacConkey) taught us a lesson of classy visual exploitation of an empty office location, with superb changes of pace and precisely executed "whip pans" that many (including me) had believed impossible with this tool for a long time. Camera people, who spend a lifetime watching and learning, fundamentally share with toddlers a daily discovery of new words. Uttering meaningful sentences takes longer, as a matter of fact, and calls for a lot of curiosity, love and patience

**Complacencies**

There is no "stedicam effect" but poor illustrations of a style which cheerfully lays down its calamitous complacencies as a rule of Art. Copying corny effects (from rock-promos or certain video nasties) seems a sufficient consolation to those who take it for granted, as a physical law, that the horizon should rock and roll. Jelly-like shots, re-framng done with a chewing-gum philosophy, runs in the nauseous league and riotous stops are thought to be the ineradicable visual grammar forcibly packaged with it. Such an expensive brat's rattle should wobble a little bit, all the same, if only to pay off. A satanic tool indeed, fated to engender its own set of onanistic canons, through the woolsy glissando of a vision losing all references in culture and physiology. It often ends up in an incurable Brownian movement, hastily baptized with the pompous and usurped title of "sequence" shots. Steadicam may appear as the ultimate high-tech cult gizmo, but it hasn't re-invented the Motion Pictures. A sequence shot certainly won't captivate anyone, unless a delicate balance is struck between composition and traveling effects. On top of all this, a subtle chaining up of highlights and rests in performance and camera work has always been a must, not to mention the ferocious hunting down of boring sections. Nothing new under the sun, really, as no solid camera crew used traditional means would contradict, when

are entangled in intricate choreographies, desperately exchanging glances as they try to shape up their ballet.

The artistic quality of the photography of a movie, together with the cameraman's adrenaline levels, suffers much from a camera that tends constantly to ferret about in all axes, when not motivated by the plot. These convulsions are by no means the symptom either of a genetic taint of the shooting device, or of a Parkinsonian derangement that inevitably afflicts all steadicam operators. It's a known clinical fact, though, that a few of the latter spend considerable time selling aerobics demos to directors. There certainly are better ways of hoisting the colors of one's specialty than prancing and sprinting one's way to a dubious celebrity. On the other hand, some directors are convinced that steadicam can magically wipe out all the hardships entailed by long-drawn-out shots. Cuing people, lining up all camera positions, coordinating all the moves of actors and technicians alike, while fondly watching performance, sound and light ... this indeed is the name of the game, and it has to be so forever, if one is after quality in the thorny field of sequence-shots. No technology can by-pass it, whatever far-out medium you come up with ... be it radio-controlled sherpa (through electrodes), Louma or even Sputnik.

**An american graft**

Italy, which hasn't remotely reached our volume of movie production, boasts nearly 40 steadicam units and the whole of Europe almost a hundred. This inevitably raises questions about the 7 or so only to he found in France It is customary in
most english-speaking countries for Steadicam and Panaglide to shoot large sections of feature films, and it seems to be a deep-rooted habit, judging by their transparent integration in the visual fabric of films. The USA is bubbling with training workshops. Veterans gather with novices to pass on their craftsmanship (and assorted jokes), in a magnificent looneys-on-their-funny-flying-machines sort of atmosphere. As I attended three times as a trainee and twice as assistant-instructor, I can bear witness to this cocktail of fun and hard work. You rub shoulders with the world's best operators, and occasionally outstrip them ... at frisbee. I'm trying neither to evangelize my compatriots, with a candid pro-American pitch (especially in these days of heavy invasion of our catholic-ray tubes), nor to advocate ruinous pilgrimages in quest of the only otherworldly detergent that can make your steadicam shots whiter, but it has to be admitted that the craft hasn't taken deeply in the cinematographic culture of my Cartesian sweet home.

It so happens that, six years ago, I paid this lack of interest by a forced exile in other European countries, after a few years of Don-Quixotism wasted in a feverish and awkward defence of what was considered as a yankee gadget. Nobody was interested in it at that stage, except for some shoddy stunts. I don't at all regret going abroad because I used to feel like a one-track-minded glider pilot unwilling to land (and incapable of doing so). To help me come down to earth with a bump, I even received the radical eye-opener and frenzy-some.

I wonder, in the same breath, whether an excellent heart pump, strong legs and a very good back, all wrapped up in sharp orthopedic science, are not the necessary (but not sufficient!) impediments for those who rate themselves specialists of this enthralling pursuit. Steadicam operators share with other professions the fact they make a living on their body (and on their diplomatic touch), so we'd better keep both ready for the triple somersault backwards we may be at risk to be paid into. In my view, backache simply does not exist if we fine-tune our physique as carefully as our gear, and keep it on the supple side. Real trouble is more likely, in fact, among Sparks who spend large portions of their lives lugging HMI ballasts ... Having said that, I must admit that our modern BL or Moviecams offer, on top of their extreme silence, the unsophisticated joy of having half of our own weight floating besides us, in a gracious ballet which will certainly benefit in precision and repeatability if our body succeeds in keeping pace. Admit it or not, the Spirit can not breathe on the Steadicam if the Flesh is weak and flabby.

Ritual Psalmodies

Filming with carried-stabilized cameras is taken on the serious side in the UK, if one is to go by the many weeks of work usually apportioned to their specialists by Productions, which are not necessarily all American. I must be said that one is expected there to additionally deliver classical second unit work. This comes in very handy for a clever use of this expensive contraption, which, far too often, is consigned to a ghetto in my country. A round trip ticket between fluid and gear is a good way to level one's head and hands off. You may then acquire a clear feeling of the registers in which each instrument plays best.

In contrast, being called on a feature in France boils down, quite often alas, to intoning the ancient Litanies of the early Steadicamites' Liturgy: Thou shalt run, Thou shalt climb and Thou shalt be ready to take nasty bumps. I emphasize this last issue (which caused many a frenzied workmate to over-fantasize) because, in my humble opinion, Steadicam is a dud with helicopters (in which Tylers and other Helivision are what the director ordered), a dud (and a dangerous one...) with horses and is practically unusable in places where a violent wind (or stream of...
air caused by high speed) tends to seriously perturb the delicate balance of masses required for precise work.

Of course, one often ends up making do, when the shooting must go on at any cost. I have a fond memory of these Vietnamese extras on "Full Metal Jacket", clenched-teethed volunteers for the camera wind-breakers fatigue-duty, clinging with the energy of despair, in pairs and in several ranks, to wicker boards bending in gusts of a wind which threatened to send the whole party into the nearby Thames. All this was to make it possible for me to zigzag, in a relative calm, among Marines bloodied up to their ears, and very busy playing their noisy games in the inimitable English mud ...

Concerning the damnation to run, I always found it wise to pass the relay to our friends the Grips. According to the lay of the land and to the shot contemplated, one shouldn't hesitate to hint at a surrealist list of contrivances to be pushed, pulled or even driven. The camera operator can then devote his three arms to the finesse of jolt-free shooting. Grips have always been keen experts in navigation and it would be criminal not to use their talents, for (the masochistic) fear they may steal the show.

Certain die-hard Puritans of our trade will judge it indecent to fix a Steadicam arm on top of a movie crane or a dolly (to the nevertheless laudable purpose of filtering vibrations off when tracks are out, lest they may he in shot, or when the terrain is too complicated to level off). This tends to forget that the cross-breeding of techniques often produces beautiful visual babies. The advantage of the great vertical beam travel and jibbing capacities of these good old instruments, not to mention the expertise of the grip crew, is an offer that it would be silly to refuse. Steadicam replaces nothing and mustn't fuel the quackish illusion that one can do without the collective memory of our trade, even if we, at times, desperately feel like shaking it out of its cozy conservatism. Abel Gance or Marcel Lherbier did not wait for our present-day gadgets to offer a gorgeous imagery in top gear with the script. In comparison, their work tends to make some of the stodgy special effects of today look doddering. One begins to dream of the visual symphonies they would have composed with our modern toys. In this respect, there's nothing really iconoclastic in using them to abduct fork-lift trucks, for instance, so as to make a shameless and jerk-free parody of the huge Hollywood cranes. After all, never mind the shape of the bottle, as long as you get tipsy... on unobtrusive and fine workmanship.

A Steadicam operator, who is too often pigeon-holed into his specialty, should ideally be capable of adapting himself to any directorial requirement: from the Baroque style all in sophisticated twists and volutes, to the Jansenistic rigor of those who can't see the world other than through a 50 mm, not forgetting the obsessive cutters, or those who are wary of gratuitously pretty movements. I personally tend to feel that the only gauge of quality for Steadicam work is its humble fusion in the full score of the film, when framing respects the intimate music of actors and script, while gliding over cinematographic challenges. Technicalities are never so perfect as when nobody is aware of them. This opinion stirs up my perfectionist scruples about assembling a "show"reel: the shots I'm most proud of are not particularly outrageous, but more on the subtle side. The real Wizardry of the Silver Screen rapidly wears thin when tools take over, or when some of their addicts declare their "fascinating" ventral appendage to be a necessary evil, on the way to a doubtful paradise.

JM.B

3- Ultramodern, ultraquiet motion picture cameras of 35mm format.
4- Antivibratory systems making intensive use of gyrostabilization.
5-... unless the arm is hardmounted onto the saddle.