Movie critic corner

I am sitting at the back of a lecture theatre listening to a seminar. The lurid backgrounds and flashy dissolving, spinning and crawling graphics of the PowerPoint presentation whirl in front of me. More words, a few gels, some gratuitous immunofluorescence and the ever-present summary drawings. Crikey! This looks and sounds like the talk I saw earlier in the week. Then, things perk up. We are treated to a movie. This is more like it. Turn down the lights, and pass the popcorn please!

It seems only a few years ago that movies in seminars were given by a few daring souls with a VHS tape. In most cases, the equipment used to make these videos was butchered parts from commercial microscopes and required frequent trips to the local electronics shop – something that relatively few had the expertise to do (properly). The video was usually not of great quality, often quite grainy in appearance and looking like early black-and-white films. The nervous part for the speaker (and usually the entertainment for the audience) was whether the video projector would work – a touch and go procedure. As usual, one was distracted by the clock running in the corner, which was always set to some time in the middle of the night (didn’t anyone get these experiments to work at lunchtime or during the afternoon). Invariably the movie segment was quite short, there was difficulty in starting and stopping the movie in the right place and a replay was out of the question. But now, commercial microscopes do a fair job of digitally recording images, and computers have enough software to turn the movies into Hollywood productions!

Now, with the ubiquity of movies in talks, it is about time that we started a movie critic column.

Complex developmental processes (conversion-extension, gastrulation, etc.). A class of ‘Big Production Movie’. Generally, there are two schools of production. The traditionalist directors use black-and-white phase contrast or differential interference contrast imaging, and the stars are amphibians. The lens is wide angle, zoomed out. The director clearly wants to impress us with his/her ability to handle the big picture. The supporting actors perform complex contortions as they change shape and organization relative to each other. Their movements, intimate touching and caressing, may not be appropriate for younger audiences. As a member of the
audience, one can be at the same time impressed with the sort of artsy geometry of the production and befuddled with the overall message of the movie – life is complex clearly, but I knew that. Clearly background knowledge of the director’s and star’s previous work is required if one is to appreciate this production fully. The second school of production has been around only for a couple of years, and the directors use Technicolor imaging in which the stars and supporting actors wear bright green and red costumes in order to distinguish them from the background ‘extras’. Here, the movement of the actors is much clearer, their choreography – formation of chains, tubes and assemblies – is apparent even to a member of the audience who is experiencing this production for the first time. Overall, this is an impressive show, although it should be noted in the small print in the acknowledgements that the actors know what they are doing but the director hasn’t a clue yet!

**Cytoskeletal dynamics.** A relatively low-budget movie. Here the star is usually a solitary actor, and the director keeps a tight focus on him/her and does not bother with a supporting cast, extras or external scenery. It is the inner workings of the actor that we watch, the guts displayed in situ with each part carefully color labeled. The guts contort, splay out, wind around each other, seemingly move apart and entwine themselves around another structure. There is an impressive use of pharmaceuticals, which generally cause one or more parts of the guts to dissolve or fragment and then, upon recovery, to reform seemingly from thin air. Once you get over the initial queasiness caused by watching the movements of the guts of a living actor, the image is quite beautiful. The movie is suitable for young viewers as they are always fascinated with this sort of gore, and it has the added advantage that they can see the dramatic and negative effects of drug use on the organization and function of the actor’s innards.

**Bacteria entry and behavior in host cells.** You may have wondered where John Carpenter and that genre of directors got their ideas about alien life forms attacking, taking over, multiplying in and finally liquefying hosts. Well, here is the original movie. Small beasts, many, many times smaller than their hosts, attach to and then – Oh! It’s too scary to watch – hoodwink the host into taking them inside as if it was a normal host process. The host doesn’t realize what it has done and continues to go about its mundane life of eating and dividing. And then – it is almost too horrible to say – the beasts start to multiply rapidly in the host. In some cases, they race around the cell, bumping into different parts and causing the cell to send out long tentacles. Finally, the host is so full of bacteria – this is the really sick part – that it undergoes rapid death, ruptures and spills the progeny of the initial infecting agent into the surrounding population of hosts, all of which soon become infected. Soon the entire host population is dead. A horror movie to beat all others. Definitely not recommended for the faint hearted, the weak or immune compromised.

**Poking cells (laser-trap, micro-needles).** I am not sure that these movies are available to a general audience, as they can involve what appears to be torture and direct application of sticks, needles and large spheres to actors. The director’s intent is clearly to get a response from the actor. For example, I was recently made to watch a movie in which a large sphere was dropped on a single actor. The sphere clearly stuck to the actor’s skin, and then it was captured by (I hope that I am not infringing any laws) a device called a laser tweezer and pulled hither and thither. Luckily the sound was off; so we could not hear the shrieks of the actor as it’s skin was yanked around. In other examples of this sick movie genre, small, sharp needles are used to poke actors, impale them and to inject noxious substances into them. Again, the effects on the actors are unpleasant and distressing to watch. One can only hope that these movies are of interest to only a very, very small minority of audiences.

**Cell movement.** This movie is an amusing combination of fast and slow action as the director images actors from overhead as they move around on a surface. Some actors, usually obtained from fish-scale training school, can move very fast with a gliding motion in which their front barely appears to move as it fans out over the surface. Other actors are more hesitant in their movements, often appearing to move in one direction, dallying for a while as they wave lacy structures around, and then change their minds and wander off in another direction. Yet other actors sit twitching until a stimulus is applied, whereupon they rapidly elongate and snake towards the stimulus; amusing, albeit teasing, games can be played on these cells as the stimulus is moved to a different side of the actor, who then changes direction only to have the stimulus moved again – these actors can end up in a mental hospital if this process is continued for too long. Overall, these movies are good clean entertainment for the whole family.

**Cell division.** Ah, one of the most beautifully choreographed movies of all time. Again, individual actors are the stars. We watch an actor who does not seem to be doing anything. Then, before your eyes, a transformation begins as first the central eye of the actor gradually changes density until it becomes a mass of long strings. These strings line up, jiggle around a little and then, as if on a cue from the director, separate into two halves that move effortlessly to opposite sides of the actor. And then the most amazing thing happens: the actor convulses, folds in on itself in the middle and separates into two halves. No, it’s OK. There’s no blood, the actor’s guts do not spill out, everything is fine – it is all really beautiful and apparently perfectly normal! What a great movie! The convulsing that occurs prior to division of the actor is the subject of a classic movie entitled “The Bouncing Hamburger”.

Unfortunately, I finished my popcorn. Oh well, time to get off my chair in the balcony section and go back to the lab and do some work.