SO! LET'S SEE:

EACH PANEL OF A COMIC SHOWS A SINGLE MOMENT IN TIME.

AND BETWEEN THOSE FROZEN MOMENTS—BETWEEN THE PANELS—OUR MINDS FILL IN THE INTERVENING MOMENTS, CREATING THE ILLUSION OF TIME AND MOTION.

LIKE A LINE DRAWN BETWEEN TWO POINTS.

NAH! OF COURSE NOT!

TIME IN COMICS IS INFINITELY WEIRDER THAN THAT!

RIGHT?

SINGLE MOMENT?

HARDLY!

PAF!

AUGH!

THAT FLASH IS BLINDING, UNCLE HENRY!

OH, HENRY! PUT THAT CAMERA AWAY, WILL YOU?

WELL, IF OL' HENRY IS GONNA HAVE MUCH MORE FUN, WE MAY HAFTA LOCK UP THE WINE CELLAR.

MEM...

SURE YOU WANT TO MOVE THERE, JED?

OHHHHH...

PAF!

SIGH!

HA!

WHAT FLASH IS BLINDING, UNCLE HENRY?

HEE-HEE!

SMILE!

PAF!

PAF!

PAF!

AUGH!

THAT FLASH IS BLINDING, UNCLE HENRY!

HEE-HEE!

SMILE!

PAF!

PAF!

PAF!

Even the brief sound of a flashbulb can have a certain duration, short to be sure, but not instantaneous!

Far slower is the duration of the average word. Uncle Henry alone burns up a good 1/60th in this panel, especially since "Smile!" undoubtedly preceded the flash.

Likewise, the next balloons could have only followed the burst of the flashbulb, thus adding still more time.

Just as pictures and the intervals between them create the illusion of time through closure, words introduce time by representing that which can only exist in time—sound.
But how could this be anything but a single moment? Our eyes have been well-trained by the photograph and by representational art to see any single continuous image as a single instant in time.

Those figures, faces and words are matched in time as well. The properties of the single continuous image, meanwhile, tend to match each figure with every other figure.

Portraying time on a line moving left to right, this puts all the images on the same vertical axis.

But the actions that we see occurring seemingly at the same time obviously can't be!

Another way to look at it: let's think of time as a rope.

And tangled up time beyond all recognition!

Snap! Snap! CRASH!

Perhaps we've been too conditioned by photography to perceive single images as single moments. After all, it does take an eye time to move across scenes in real life!

Each figure is arranged from left to right in the sequence we will "read" them, each occupying a distinct time slot.

In some respects, this panel by itself actually fits our definition of comics! All it needs is a few gutters thrown in to clarify the sequence.

One panel, operating as several panels.
NOT ALL PANELS ARE LIKE THAT, O F C O U R S E.

A SILENT PANEL SUCH AS THIS COULD INDEED BE SAID TO DEPICT A SINGLE MOMENT.

HE'S GIVING IT HIS ALL, FOLKS!

IF SOUND IS INTRODUCED, THIS CEASES TO BE TRUE.

THESE ICONS WE CALL PANELS OR "FRAMES" HAVE NO FIXED OR ABSOLUTE MEANING, LIKE THE ICONS OF LANGUAGE, SCIENCE AND COMMUNICATION.

Nor is their meaning as fluid and malleable as the sorts of icons we call pictures.

The panel acts as a sort of general indicator that time or space is being divided.

--BUT, IN AN OTHERWISE SILENT CAPTIONED PANEL, THE SINGLE MOMENT CAN ACTUALLY BE HELD.

HE WAS GIVING IT HIS ALL, WHEN--

THESE VARIOUS SHAPES WE CALL PANELS HOLD IN THEIR BORDERS ALL OF THE ICONS THAT ADD UP TO THE VOCABULARY OF COMICS.

The durations of that time and the dimensions of that space are defined more by the contents of the panel than by the panel itself.

All except one.

For just as the body's largest organ -- our skin -- is seldom thought of as an organ--

--SO TOO IS THE PANEL ITSELF OVERLOOKED AS COMICS' MOST IMPORTANT ICON!

Panel shapes vary considerably, though, and while differences of shape don't affect the specific 'meanings' of those panels vis-a-vis time, they can affect the reading experience.

Which brings us to the strange relationship between time as depicted in comics and time as perceived by the reader.
IN LEARNING TO READ COMICS WE ALL LEARNED TO PERCEIVE TIME SPATIALLY FOR IN THE WORLD OF COMICS, TIME AND SPACE ARE ONE AND THE SAME.

THE PROBLEM IS THERE'S NO CONVERSION CHART!

THE FEW CENTIMETERS WHICH TRANSPORT US FROM SECOND TO SECOND IN ONE SEQUENCE COULD TAKE US A HUNDRED MILLION YEARS IN ANOTHER.

SO, AS READERS WE'RE LEFT WITH ONLY A VAGUE SENSE THAT OUR EYES ARE MOVING THROUGH SPACE, THEY'RE NOT MOVING THROUGH TIME. WE JUST DON'T KNOW BY HOW MUCH!

IN MOST CASES IT'S NOT HARD TO MAKE AN EDUCATED GUESS AS TO THE DURATION OF A GIVEN SEQUENCE, SO LONG AS THE ELEMENTS OF THAT SEQUENCE ARE FAMILIAR TO US.

FROM A LIFETIME OF CONVERSATIONS WE CAN BE SURE THAT A "PAUSE" PANEL LIKE THIS LASTS FOR NO MORE THAN SEVERAL SECONDS.

I ALWAYS FIGURED PAGES WERE SHORT SO FOR BILLIONS.

I GUESS.

I GUESS.

AS UNLIKELY AS IT SOUNDS, THE PANEL SHAPE CAN ACTUALLY MAKE A "DIFFERENCE" IN OUR PERCEPTION OF TIME, EVEN THOUGH THIS LONG PANEL HAS THE SAME BASIC "MEANING" AS ITS SHORTER VERSIONS, STILL IT HAS THE FEELING OF GREATER LENGTH.

BUT IF THE CREATOR OF THIS SCENE WANTED TO LENGTHEN THAT PAUSE, HOW COULD HE OR SHE DO SO? ONE OBVIOUS SOLUTION WOULD BE TO ADD MORE PANELS, BUT IS THAT THE ONLY WAY?

I'M THINKING THE CREATOR COULD SIMPLY DO IT INSTEAD!

I GUESS.

IS THERE ANY WAY TO MAKE A SINGLE SILENT PANEL LIKE THIS ONE SEEM LONGER? HOW ABOUT WIDENING THE SPACE BETWEEN PANELS?

ANY DIFFERENCE?

WE'VE SEEN HOW TIME CAN BE CONTROLLED THROUGH THE CONTENT OF PANELS, THE NUMBER OF PANELS AND CLOSURE BETWEEN PANELS, BUT THERE'S STILL ONE MORE...

HEY, I DETERMINE A RETINA JOB! I CAN BE A BIBLE LUMINOUS!

I GUESS.

THE MASHING MAN, THEY DON'T LIKE GAMES!

I GUESS.
ever noticed how the words "short" or "long" can refer either to the first dimension or to the fourth?

in a medium where time and space merge so completely, the distinction often vanishes.

the panel border is our guide through time and space, but it will only guide us so far.

when "bleeds" are used--i.e., when a panel runs off the edge of the page--this effect is compounded.

when "bleeds" are used--i.e., when a panel runs off the edge of the page--this effect is compounded.

most of us are so used to the standard rectangular format that a "borderless" panel such as this can take on a timeless quality.

time is no longer contained by the familiar icon of the closed panel, but instead hemorrhages and escapes into timeless space.

as mentioned, panels come in many shapes and sizes, though the classic rectangle is used most often.

when the content of a silent panel offers no clues as to its duration, it can also produce a sense of timelessness.

because of its unresolved nature, such a panel may linger in the reader's mind.

and its presence may be felt in the panels which follow it.

such images can set the mood or a sense of place for whole scenes through their lingering timeless presence.

once again, this is a technique used most often in Japan and only recently adopted here in the west.
In comics, as in film, television and real life, it is always now. This panel and that panel alone represent the present. Any panel before this one that last one for instance represents the past.

Likewise, all panels still to come, this next panel, for instance, represents the future. But unlike other media, in comics, the past is more than just memories for the audience and the future is more than just possibilities!

Wherever your eyes are focused, that's now. But at the same time your eyes take in the surrounding landscape of past and future.

Like a storm front the eye moves over the comics page pushing the warm, high-pressure future ahead of it leaving the cool, low-pressure past in its wake.

This may in part be the influence of other media, like film and television, where viewer choice has not generally been feasible.

Conditioned as we are to read left-to-right and up-to-down, a mischievous cartoonist can play any number of tricks on us.

This is why I'm in the wrong house!
Comics readers are also conditioned by other media and the "real time" of everyday life to expect a very linear progression. Just a straight line from point A to point B, but is that necessary?

As mentioned earlier, time and space in the world of comics are closely linked. As a result, so too are the issues of time and motion.

As discussed in Chapter Three, motion in comics is produced between panels in a mental process called closure.

For now, these questions are the territory of games and strange little experiments. But viewer participation is on the verge of becoming an enormous issue in other media.

How comics addresses this issue--or fails to--could play a crucial part in defining the role of comics in the new century.

Time will tell.

Despite comics' three thousand year history, it wasn't until Topffer's mid-1800s doodlings that specific motions were portrayed in comics in the now-familiar panel-to-panel form.

Within a few years, however, motion was a hot topic.

Panel 1: "How in sight and with sound, the motion is revealed. The things happen, conscious of a sense in general."

Panel 2: "It has a consciousness making sense of what is seen, one jumps up with a roar of laughter."

Panel 3: "But usually by transition types one two, but let's not get into THAT again!"
IN THE LAST QUARTER OF THE NINETEENTH CENTURY, IT SEEMED LIKE EVERYONE WAS TRYING TO CAPTURE MOTION THROUGH SCIENCE!

BY 1880, INVENTORS THE WORLD OVER KNEW THAT MOVING PICTURES WERE JUST AROUND THE CORNER. EVERYONE WANTED TO BE FIRST!

BY J.E.B. INVENTORS, THE WORLD OVER KNEW THAT MOVING PICTURES WERE JUST AROUND THE CORNER. EVERYONE WANTED TO BE FIRST!

MY STROBOSCOPE IS SUPERIOR IN EVERY WAY TO THE OBSOLETE ZOETROPHE!

BAN MY PRAXINOSECOPE IS BETTER!

FOOLS! MY KINEMATOSECOPE IS A CHILD'S PLAY! THEY ARE BUT FUTURE TOYS NEXT TO THE AWESOME PHANTOMATROPE!

FRAUDS ALL! MY ZOO-PRAXINOSECOPE MILL!!

AS THE MOVING PICTURE BEGAN ITS SPECTACULAR RISE, A FEW OF THE MORE RADICAL PAINTERS OF THE DAY EXPLORED THE IDEA THAT MOTION COULD BE DEPICTED BY A SINGLE IMAGE ON CANVAS.

THE FUTURISTS IN ITALY AND MARCEL DUCHAMP IN FRANCE BEGAN THE SYSTEMATIC DECOMPOSITION OF MOVING IMAGES IN A STATIC MEDIUM.

IT WASN'T A BAD IDEA!

Duchamp soon moved on, the futurists disbanded and fine artists generally lost interest in this other type of "moving picture."

But throughout this same period, another medium, less conspicuously, had been investigating this same area.

I'M SURE YOU CAN ALL GUESS WHICH MEDIUM I MEAN!

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From its earliest days, the modern comic has grappled with the problem of showing motion in a static medium.

And in comics, unlike painting, it was more than just a theoretical question.

How do you show this aspect of time in an art where time stands still?

Through sequential art survived for many centuries without depicting motion, once the genie was out of the bottle it was perhaps inevitable that more and more efficient means would be sought. At first, this search centered on multiple images in sequence.

Over the years, these lines became more refined and stylized, even diagrammatic.

Eventually, in the hands of heroic fantasy artists like Bill Everett and Jack Kirby--

Eventually, in the hands of heroic fantasy artists like Bill Everett and Jack Kirby--

Those same lines became so stylized as to almost have a life and physical presence all their own!
Colan, who was also a film buff, was of course aware that when a camera's shutter speed is too slow to fully freeze a moving object's image, an interesting blurring effect occurs.

A car going at 60 MPH might look like this.

**But** if the camera moves with the moving object, that object will remain focused while the background will now be streaked.

In this approach, both the moving object and the backgrounds are drawn in a clear, articulated style, and the path of motion is imposed over the scene.

Other artists tried additional effects such as multiple images of the subject, attempting to involve the reader more deeply in the action.

Still others, such as Marvel's Gene Colan, began incorporating photographic streaking effects with some intriguing results in the sixties and seventies.

And in Europe, where motion lines were used only sparingly, it was likewise ignored.

But in Japan, once again, a very different comics culture embraced this very different concept of motion as their own!

* Multiple images can be found in the work of Krigstein, InWyng and others.
"SUBJECTIVE MOTION" AS I CALL IT OPERATES ON THE ASSUMPTION THAT IF OBSERVING A MOVING OBJECT CAN INVOLVE BEING THAT OBJECT SHOULD BE MORE SO.

JAPANESE ARTISTS, STARTING IN THE LATE 60s, BEGAN PUTTING THEIR READERS IN THE DRIVER'S SEAT WITH PANELS LIKE THESE.

AND STARTING IN THE MID-EIGHTIES, A FEW AMERICAN ARTISTS BEGAN TO ADOPT THE EFFECT IN THEIR OWN WORK UNTIL BY THE EARLY NINETIES IT HAS BECOME FAIRLY COMMON.

IN COMICS COMPOSITION FOLLOWS A VERY DIFFERENT SET OF RULES THAN IN MOST GRAPHIC ARTS.

BY INTRODUCING TIME INTO THE EQUATION, COMICS ARTISTS ARE ARRANGING THE PAUSE IN WAYS NOT ALWAYS CONCLUSIVE TO TRADITIONAL PICTURE-MAKING.

HERE THE COMPOSITION OF THE PICTURE IS JOINED BY THE COMPOSITION OF CHANGE THE COMPOSITION OF DRAMA.

--AND THE COMPOSITION OF MEMORY.

ARE THESE THE ONLY WAYS WE CAN PORTRAY MOTION IN A SINGLE PANEL? THINK ABOUT IT.

IF THE COMPOSITION OF A SINGLE PANEL IS TRULY PERFECT, DOESN'T THAT IMPLY THAT IT CAN --OR EVEN SHOULD STAND ALONE?

THE NATURAL WORLD CREATES GREAT BEAUTY EVERY DAY YET THE ONLY RULES OF COMPOSITION IT FOLLOWS ARE THOSE OF FUNCTION AND CHANCE.

COMICS, AT ITS BEST, SHOULD DO NO LESS.
AS WE'VE SEEN, THE INTERACTION OF TIME AND COMICS GENERALLY LEADS US TO ONE OF TWO SUBJECTS: SOUND OR MOTION.

SOUND BREAKS DOWN INTO TWO SUBSETS: WORD BALLOONS AND SOUND EFFECTS.

THE OTHER TYPE -- MOTION WITHIN PANELS -- CAN BE FURTHER DIVIDED INTO SEVERAL DISTINCT STYLES. I'VE COVERED THE ONES I KNOW, BUT THERE MAY BE MANY OTHERS. TIME WILL TELL.

BOTH TYPES ADD TO THE DURATION OF A PANEL, PARTIALLY THROUGH THE NATURE OF SOUND ITSELF AND BY INTRODUCING ISSUES OF ACTION AND REACTION.

MOTION ALSO BREAKS DOWN INTO TWO SUBSETS: THE FIRST TYPE -- PANEL-TO-PANEL CLOSURE -- WAS IMPORTANT ENOUGH TO MERIT ITS OWN CHAPTER.

MOTION IS ONE OF SIMPLE NORMALITY.

I'VE BEEN TRYING TO FIGURE OUT WHAT MAKES COMICS "TICK" FOR YEARS AND I'M STILL AMAZED BY THE STRANGENESS OF IT ALL.

BUT NO MATTER HOW BIZARRE THE WORKINGS OF TIME IN COMICS IS --

THE WORKINGS OF TIME IN COMICS SHOULD BE AS SIMPLE AS --

ONE -- TWO -- THREE -- BUT THEY'RE NOT.

OK THE ILLUSION OF IT, ANYWAY.

ALL DEPENDS ON YOUR FRAME OF MIND.