THE FASTEST MAN ON EARTH

December, 1954.

The ugly blue-gray overcast stretched all the way from the Sacramento Mountains in the east to the San Andres range on the opposite horizon. The clouds had remained unbroken since dawn.

Dr. John Paul Stapp stood, in his flight suit, on the desert floor, just a few miles from where the atomic age had been born in wind and fire. He stared at the bright spot in the clouds that hung halfway between the peaks of the Sacramentos and the zenith.

Occasionally the brightness wavered as the boiling clouds moved across it. That meant, he knew, that parts of the overcast were thin. That meant that there might be a break.

Five minutes of sunshine. That was all he needed, five minutes.

Dr. Stapp looked around him. Even with the muted sun, there was almost enough light. There was enough, for instance, for the red and white rocket sled to cast a fuzzy shadow. The two small hills to the south, toward Mexico, had swelled to the size of a mountain, so there was enough light for a mirage. There was more than sufficient light to satisfy the news photographers, who were sitting in and on the parked jeeps.
The Fastest Man on Earth

It was almost bright enough for the high-speed scientific cameras in the sled and chase plane.

Almost, but not quite.

Maybe there would be a break in the cloud cover and they could get on with it.

Sure, there would be a break. That was what he told the crew, anyway. Even in science, you've got to have faith.

"Testing," said the blockhouse speaker, booming out over the desert. "Testing, one, two..."

Perhaps he should go get strapped in and wait for a bright spot. If the sun came out and the restraints weren't fastened, it might cloud over again before they could get ready.

Of all the bad luck. How could you anticipate clouds over White Sands?

There was always sun in the desert, which was one reason he loved it so much. He loved the expanse of valley and the mirage lakes, loved to fly in the brilliant blue sky, loved to lie and be washed by the sun.

It was an environment that was belligerently different from the one he had grown up in, as part of a missionary family, in Brazil. Clouds evoked emotions that sparked memories of delirium and malaria.

Dr. Stapp paced, impatiently, looking frequently at the ugly blue-gray sky. He conferred briefly with his engineer, an enlisted man from Baltimore.

"It'll clear up," Dr. Stapp said.

The news photographers sat like vultures, with the patience of people who are getting paid by the hour. Idly, one of them raised a Speed Graphic and snapped a picture.

Their editors liked the story of the daring Air Force flight surgeon, and were mesmerized by the danger. Dr. Stapp had tried to explain to them that there was no danger but, like the Air Force brass, they refused to listen.
Well, maybe the attention would do the program some good. Maybe it would make his superiors leave him alone and trust him to do his job.

The flight surgeon turned toward the rocket sled. Several more cameras clicked.

A jeep started up and moved onto the dirt road paralleling the steel tracks. It bounced northward, horn honking, a plume of dust rising behind it.

The tracks were set on concrete strips, and there was a deep ditch between them. At the far end of the run, fiberboard dams had been fitted between the tracks, and earlier a tank truck had gone out to the track's end and filled the resulting pools with water.

Once they were filled, the pools had to be carefully watched. The only open water for miles around, they were a magnet for birds, coyotes, and other desert creatures.

If Dr. Stapp hit a Mexican chickadee at four hundred miles an hour . . . that could do a lot of damage to the overbite. Well, the honking jeep should scare them away.

The only permanent solution, Dr. Stapp knew, was to build a separate pond a mile or so away and dedicate it to the coyotes and birds. But that would take money, so he just didn't think about it.

A breeze puffed across the valley, sweeping away the dust cloud left by the jeep. Dr. Stapp hoped the wind would stay down. He didn't need wind—he needed sun.

Five minutes was all he needed. Just five minutes.

He walked toward the sled.

It sat high atop the tracks, an ungraceful apparatus of struts and pipes that the Stapp crew had christened Sonic Wind Number One.

The rockets took up most of the space in the rear of the sled, and the seat was in front. Dr. Stapp grabbed a strut, put a foot on the rail, and swung himself up.

Two hundred feet away, cameras clicked.

A junior medical officer, a member of Dr. Stapp's team who had ridden the sled himself and who would serve as flight surgeon for this test, climbed up beside him. The sled mechanic climbed up on the other side. He had ridden the sled as well. But nobody had made a ride like this.

"Strap me in," Dr. Stapp said, settling into the chair. "It'll clear."

Dr. Stapp relaxed, letting them spin the web of straps around his body.

It was, in large part, the straps that made it possible for humans to ride the sled. Every restraint had a specific function with a history, a theory, an animal test behind it.

Earlier scientists had used human corpses to test the upper limits of physical endurance, but Dr. Stapp had started out with anesthetized animals. Monkeys. Bears. Pigs.

Pigs were very good test subjects. They were a lot like men. The animals, and their sometimes gruesome injuries, had helped him design the straps.

Dr. Stapp knew exactly what he was doing, and that, he told the brass again and again, made it perfectly safe.

But what if something went wrong? . . .

The flight surgeon's response would have made perfect sense to another pilot.

Something go wrong?

Why, that's no problem.

You just don't let anything go wrong. You see, that's what makes it so safe.

Dr. Stapp was content with test pilot logic, but other people, who sat behind desks in Washington, weren't.

The editors of the newsmagazines obviously didn't understand, either. If they had, they wouldn't have sent so many photographers.

Let the editors think it was dangerous, then, if that was
what it took. Let the brass think it was stupid. John Stapp knew better. He wasn’t going to waste time agonizing. If his pulse got a little rapid when he climbed onto the sled, well, it was a normal physiological reaction. The beating heart meant fear only if you wanted to interpret it that way.

To a scientist, it was simply data.

The flight surgeon handed Dr. Stapp the crash helmet, and he slipped it over his head.

With science, the human body could endure awesome forces without injury. With science, Dr. Stapp could survive the sled, and if his heart beat a little fast it was because the heart knew no science. With scientists going before them and calculating the forces, pilots could survive ejection at Mach 2.

With science, military men and civilians alike could survive automobile accidents.

Everyone was afraid of polio, but anybody who had ever spent any time in an emergency room or a morgue knew the big killer of children wasn’t polio. And it wasn’t cancer that killed the young mother or father, either.

The peculiar plague of the 20th century was getting pulverized. If people behind desks wanted to worry, they ought to worry about the tens of thousands of Americans who died each year, needlessly, on the highways.

No, what Dr. Stapp was doing wasn’t stupid—and it wasn’t trivial, either.

Unfortunately, “studying the forces that mashed people” didn’t have the ring of a scientific endeavor. But it was, and it was a very critical one at that.

Dr. Stapp called his science biodynamics, and if his heart raced toward the end of the countdown it might have something to do with scientific excitement. The equations that came out of the sled runs were leading him and his fellow scientists to the very frontier between biology and physics.

That was what nobody seemed to understand. It wasn’t the thunder of the rockets that made him do what he did, and it wasn’t the euphoria he felt when each ride was over. Riding the sled, he told reporters, wasn’t habit-forming.

What motivated him was the siren call of the equations, and the knowledge that he was doing something important. And that, he would admit if asked, was habit-forming.

Unfortunately, the reporters rarely asked.

Now an Air Force ambulance rolled to a stop beside the parked jeeps. The driver fumbled with the lid of a paper coffee cup.

Before the crew strapped his helmet to the headrest, Dr. Stapp looked up one last time at the ugly, overcast sky. There were no clearings.

It’ll break, he reassured the flight surgeon. Let’s just wait until it does, and then we’ll be ready and we can go.

Clouds over Alamogordo! Of all the rotten, rotten luck!

Far to the west, a buzzard circled beneath the blue-gray ceiling.

The flight suit was hot. The bright spot in the clouds climbed higher, and the mirage mountains shimmered behind him.

When the mechanic and the flight surgeon were finished, Dr. Stapp was totally immobilized by straps around his ankles, knees, thighs, elbows, wrists, and chest. Without the straps the air blast would pull his limbs out into the windstream and break them. Animal runs had taught him that.

The mechanic had left the chest straps a little loose, to make the waiting easier. Dr. Stapp, his head immobilized, stared straight ahead, eyes focused on the horizon, where distance made the tracks seem to come together.

Slowly, the bright spot in the clouds moved higher and higher. The photographers tinkered with their equipment.
The ambulance driver finished his coffee and began idly tearing the empty cup to shreds.

Dr. Stapp waited.

From the beginning there had been clues that, under the proper set of circumstances, the human body could tolerate unbelievable impacts. There were legends of people who had fallen from airplanes and survived, usually after landing in a snowbank or freshly plowed field. And there was the 16-year-old boy who had plunged 244 feet from the Golden Gate Bridge to the water, and survived. Many such incidents had been documented.

Such improbable, narrow escapes were clearly due, in part, to the fact that the falling people had struck something soft, which absorbed some of the energy. The position of the body at the moment of impact was also critical.

The boy who jumped from the bridge hit the water at 72.8 miles per hour, and at that velocity water isn’t a very soft substance. But he landed feet first, a position that allowed him to cut through the water and transmitted the shock more or less equally through his body. He escaped with a broken shoulder and back ... minor, given the circumstances.

The people who survived high falls onto land, however, usually hit flat on their backs, which also allowed the shock to be averaged throughout the body.

Dr. Stapp’s colleagues had collected hundreds of such stories, some better documented than others. They sat in their offices late at night, puzzling over autopsy reports and computing exactly what forces were involved in the mashing process. At meetings they debated for hours, concocting and discarding theories about why one fall victim died while another lived.

One of the first pieces of jargon invented to serve the new science of biodynamics was the “G.”

As Dr. Stapp explained to the reporters, the G was a measure of force ... mass times acceleration, for those who knew their physics. The kind of force being measured in this instance was the force that, in a rapidly accelerating elevator, pushed you down and seemed to increase your weight.

Unless, of course, the elevator was falling. In that case, you would feel lighter.

One G represented the normal pull of gravity. If you got twice that in an elevator, you would wish you were someplace else. The boy who had jumped off the Golden Gate Bridge absorbed 35 G's at the moment of impact.

The G forces could come instantly, Dr. Stapp said, as happened when a suicide landed on a Park Avenue sidewalk. Or they could be spread over a millisecond or so, in which case the outcome was often quite different. One man had tried to end his life by diving from a high window, but survived the fall because he landed on the roof of a passing car, crushing it. Many of the Gs were expended in crushing the car top, a process that, while quick, wasn’t instantaneous.

Though supersonic aircraft crashes were a relatively minor cause of death in the United States, compared to automobile accidents, it was the Air Force and not the civilian bureaucracy that supported Dr. Stapp and most of his colleagues.

The service had a historical commitment to the men who flew its machines. As those machines boomed through Mach 1 and edged toward Mach 2, the fragile human bodies they carried needed to be increasingly well protected.

And that meant, Dr. Stapp said, that they needed to know the limits of human endurance.

It was patently obvious to the flight surgeon that there was only one direct way of finding out how much force flesh and bone could stand, and that was by subjecting flesh and bone to that much force.

There were various ways of doing that, all of them in-
volving either a sudden acceleration or a sudden stop.

Scientists before Dr. Stapp had used a variety of dynamic stress devices. Animals and men rode rigid swings that fell to the bottom of their arc, hit a projection, and came to a jarring stop. One group built a chair that was attached by huge rubber bands to a giant slingshot.

But the best way to pit G forces against flesh and bone, Dr. Stapp thought, was to use a rocket sled that would attain a high speed and then be brought to a very sudden halt.

The Air Force officers wanted the information Dr. Stapp offered to provide, but they were ambivalent about his machinery. What the bright young flight surgeon had in mind looked, well...dangerous.

They didn’t order him to do it. They didn’t even ask him. But neither did they tell him not to.

So Dr. Stapp’s work began near Edwards Air Force Base in California, under less than auspicious circumstances. The group’s first rocket sled was a small one, and the equipment was mostly procured through what the military calls “midnight requisitions.”

Even the present test site, next to the White Sands National Monument in New Mexico, was hand-me-down. The thirty-five-hundred-foot track was designed to fling missiles into the air, and when that program had been completed the facility qualified as a white elephant.

To Dr. Stapp, it was a godsend.

Now, sitting strapped to the sled, he scanned the sky. Nothing.

It was blue-gray, from mountain range to mountain range.

Again, the honking jeep ran the track.

Sonic Wind Number One, like the sled in California, was held to the earth by many feet that curved around the flat bead at the top of the steel track. Wheels weren’t neces-

sary. At the speeds involved, the feet would be held away from the rails by vibration, what the engineers called frictional chatter.

One of the most critical parts of the apparatus was the braking mechanism. For the equations to work out, the scientists needed to slow and stop the sled within a specified distance, building up a precalculated G force. The faster the stop, the higher the Gs.

The first sled had relied on mechanical brakes, but that system had its problems. On the forty-eighth human run in California, for instance, the sled’s brakes had jammed. From a peak speed of 129.5 miles an hour, the sled had come to a dead stop in just 12 feet.

The man, who had ridden facing backward, had a tender tailbone and a sore back for a few days.

That and the time a man had blacked out several times after a high-speed run were the worst incidents recorded by the human test program. Dr. Stapp wished fervently that his superiors would take more comfort from that fact.

There was his own broken wrist, of course, but that was nothing. He was annoyed when the reporters mentioned it in their stories.

The point was that everything was done first with animals. By the time Dr. Stapp climbed aboard a sled, there were no surprises left.

The animal runs told the scientists what humans could do safely and, just as important, what they shouldn’t try.

For instance, early in the program there was the notion that the pilot of a high-speed aircraft might be safer if the ejection seat blew him into the air blast head first. That was, after all, how a high diver hit the water.

They tried it first on a chimpanzee.

The anesthetized primate was strapped on the sled with head pointing forward, blasted down the track, and brought to a 270-G stop.
The remains of the chimp were, as one officer later put it, a mess. There was no second test, and humans never tried it.

In fact, animals rode the sled much more often than men, attained much higher velocities, and were subjected to much greater G forces. Some simply vanished, disintegrated by the air blast.

The high-stress animal tests led Dr. Stapp to one of his most valuable conclusions about the nature of G forces, and their effect on the body.

One of the things the aircraft designers needed to know was how much punishment a pilot could stand before he began to sustain disabling injury. A few bruises were acceptable in a combat situation, for instance, but an injury that disabled a pilot, even for a moment, could be fatal. How far could the body be pushed?

That information could be critical in designing life support systems, ejection seats, and cockpits for the new Mach 2 aircraft now on the drawing boards.

Using first the sled in California and later the bigger, faster one in New Mexico, the Stapp group subjected animals to a variety of speeds and braking forces. At very high Gs the animal simply came apart. At lower Gs, they sustained minor bruises.

After each test, Dr. Stapp and his team pored over the autopsy results and compared them to the data collected by the monitors. As time passed and the information base grew, they massaged the information into graphs and equations. Somewhere in the abstract mathematics, Dr. Stapp felt certain, he would find clues to help him predict injuries and, then, prevent them.

In this effort, photographs of the run and impact were critical. Only in that way could the scientists correlate the graphs and equations with what was happening to the animal—or man—in the sled.

The photographs came from high-speed cameras. One camera was carried aboard the chase plane that followed the rocket sled down the track. The other was mounted on the very nose of the sled, facing backward, aimed at the occupant of the seat.

Because of the short exposure times involved, the high-speed cameras required a great deal of illumination. That was one of the advantages of doing the work at Holloman AFB in Alamogordo. The sun always shined at Alamogordo.

Well, almost always.

Now Dr. Stapp sat in *Sonic Wind Number One* and waited. The photographers loitered around the jeeps. The mechanic leaned on the sled.

Dr. Stapp squinted at the sky in front of him. Because his head was immobilized he couldn’t look up. Was it his imagination, or did the sky seem a little brighter?

Were the clouds thinning?

It was getting much warmer, but no one offered Dr. Stapp anything to drink. Once, years ago, while waiting for a sled run, one of the crew members had passed around coffee and doughnuts. He offered some to Dr. Stapp.

“No, thank you,” the flight surgeon replied, looking down the track. “A full stomach makes for a messy autopsy.”

After that, nobody offered.

Finally, as the early animal tests had proceeded, the answer appeared, as Dr. Stapp knew it would, in the equations. There was a relationship between a killing dose of Gs and a safe one.

Specifically, it took about one fourth as much energy to injure an animal as it did to kill it. If a hog or a bear died at 200 Gs, for instance, it wouldn’t sustain any injury at all up to about 50 Gs.
Dr. Stapp called that upper limit of safety the "point of beginning injury." Hogs and bears were about the same size as humans, so humans should also be able to sustain 50 Gs without permanent harm.

The point of beginning injury.

That was the limit Dr. Stapp would probe today, if only the sun would come out.

Five minutes. Just five minutes.

The jeep ran down the track again, honking.

The pools of water at the far end of the sled run were part of a new braking system designed after the mechanical system had failed.

The undercarriage of the sled was equipped with big scoops that broke through the fragile dams and hurled the water into the air, absorbing the energy and bringing the sled to a stop. By varying the size and depth of the pools between the tracks, the scientists could apply exactly the braking force they needed, at the time they needed it.

The new system brought the sled to a halt in a cloud of white fog. The photographers loved it.

A technician passed the time by rechecking the wire that ran from the blockhouse, behind the sled, to the detonators on the rockets. Dr. Stapp studied the sky before him.

Clouds. Over Alamogordo. Alamogordo!

The reporters and photographers collected legends about the sled and the early runs, and while they made good copy they often angered Dr. Stapp. As a scientist, he was offended by the untrue.

For instance, there was the story about the chimps who made repeated runs. As the legend put it, the second time a chimp was taken to the sled he "went ape." That was hogwash, of course. The animals weren't frightened of the sled at all, because they never saw it. They were anesthetized.

That was part of the value of human runs. When a hu-
man was strapped to the sled and fired down the track, he remembered the experience. It burned itself indelibly onto his brain.

Much of the necessary data could be collected by using the animals, but, as Dr. Stapp tried time and time again to explain to his superiors, the Air Force pilot wasn't a hog or a chimp. The pilot was a creature who had evolved to walk upright, to hold his spine straight, and to use his forelegs to work with tools. He was unique in the animal kingdom.

Was he also uniquely fragile?

To find out, humans would have to ride the sled.

There was a second aspect to human tests, as well. Scientifically, the human mind is an elegantly sensitive instrument. A man sees things a camera doesn't, feels things that don't register on the monitors, and can describe the experience afterward.

"That's the difference of doing it on a man and on an animal," Stapp explained to one reporter. "An animal can't tell you a lot of useful things. It can't tell you that the straps are too loose, or too tight, or rubbing the wrong place, for instance."

How much could a man tell you, after blasting down a track at close to the speed of sound and slapping into the equivalent of a brick wall?

Quite a lot, Dr. Stapp believed from the beginning.

True, the sudden stop at the end of the track lasted only a few milliseconds. But accident victims said that the human brain responds to stress by anesthetizing the emotion and stretching time.

At the moment of an accident, cracks seem to spread across the windshield in wondrous slow motion. A child's scream is endlessly prolonged, but curiously devoid of emotional impact. The graceful curve of the guard rail etches itself forever into the mind.

Those were the experiences of the people who hadn't
expected an impact, who weren't prepared for it.

What would happen if the animal in the sled was a well educated lieutenant colonel in the Air Force medical corps, if he knew exactly what he was going to encounter, and if he focused his mind? Such an animal might discover . . . what?

What did one of those equations feel like?

It was something a pilot, about to eject at Mach 2, desperately needed to know.

For Dr. Stapp, an officer in the United States Air Force, one thing was perfectly obvious from the very beginning. He wouldn't ask his men to do anything he wouldn't do himself.

An hour passed in the sled. Then another. The bright spot in the clouds climbed higher, and higher. His head immobile, the man in the seat watched the sky in front of him.

Were the clouds thinner?
They were. And whiter.

Suddenly the shadows sharpened and the sky turned blue.

"Let's go."

The mechanic leaped up on the sled and quickly checked the straps, tugging on the buckles. Dr. Stapp opened his mouth and the flight surgeon, on the other side of the sled, stuck a hard rubber bite block in it. That way, the pounding of his skull against his jaw wouldn't knock his teeth out.

The mechanic reached across and gave the wide chest strap one last tug, for safety, then jumped down from the sled and ran.

In the Sonic Wind, Dr. Stapp's heartbeat increased. There would be an increase in blood pressure, some trembling, perhaps. Sweating on the palms.

Data.

At least he didn't have a wife.

A wife probably would have screamed at him over the broken wrist, or, worse, cried. A wife wouldn't have understood that it was a simple medical matter. The wrist broke because the wind caught it, that's all. Dynamics.

What he had done made perfectly good medical sense.
He knew instantly that the wrist was broken. He knew that the sooner it was set, the sooner it would heal, and the sooner it healed, the sooner he could get back to work.

He knew that the instant the impact was over, so he did the obvious thing. As soon as he got his breath back, he reached down, felt the bones, grabbed the wrist, steeled himself against the pain, and twisted.

Moments later a jeep slid to a halt beside the sled, and the test run's official doctor jumped up beside Dr. Stapp. But by that time there was nothing therapeutic left for him to do. The wrist was already set.

Dr. Stapp was mystified by the fuss. After all, it was his wrist. He was a doctor, wasn't he? He was qualified!

He was also unrepentant. When he broke the same wrist in a different place a few runs later, he set it again.

No, a wife would have had trouble understanding. So there was no wife.

"Two minutes," said the speaker.

Two red flares hissed behind the sled, arcing into the beautiful blue sky.

Dr. Stapp waited, staring down the tracks. Bright light flooded down from the beautiful blue sky, and the horizon shimmered with mirages.

If it was difficult to breathe, that was a physiological fact. A data point.

A jeep sped down the parallel road, toward the end of the track. That would be the flight surgeon. The ambulance driver cranked his starter.

"One minute."

In the sled, Dr. Stapp fought for breath.
It wasn’t fear.  
Data:  
The chest strap.  
It was too tight. He couldn’t breathe.  
“Thirty seconds.”  
The chase plane would already be in the air.  
The sun was bright, the sky was blue, but the clouds would soon close in again. How long would the sun shine?  
Five minutes.  
Overriding the sensation of suffocation, Dr. Stapp tried to alter his breathing, using the diaphragm more, taking in the air in shallow gulps.  
“Twenty seconds.”  
The chase plane came in low, out of the mirage mountain range, its sleek shadow racing beneath it.  
Dr. Stapp clasped and unclasped his hands. Sweating palms. Naturally. Data.  
“Ten.”  
He would touch, this run, the mystical point of beginning injury. This time, he would feel the equations.  
“Nine.”  
Of course I’m a bachelor, he told the reporters. In my business, what sane woman would have me?  
“Eight.”  
The chase plane grew larger in the southern sky. Dr. Stapp’s fingers found the cord that would turn on the high-speed cameras in front of him.  
“Seven.”  
“Six.”  
Two hundred yards away, newsreel cameras began to whine.  
“Five.”  
“Four.”  
The ambulance waited at the far end of the track, parked alongside the flight surgeon’s jeep.  

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“Three.”  
He could hear the chase plane. He forced himself to relax.  
“Two.”  
He pulled the camera cord hard.  
“One.”  
I can’t breathe.  
There was a clear pop as the igniters went, and then the seat smashed into his back.  
The chase plane roared over the blockhouse, cameras whirring. Inside, the astonished pilot saw the sled pull ahead of him.  
\[ E = mc^2 \]. Time is relative.  
Time is motion and force.  
He needed a reference. He needed numbers.  
He must count.  
One.  
The focus left his eyes and the railings turned to fuzzy stripes. The horizon wavered.  
The wind blasted against him like a pounding fist, deforming his body. Grains of sand buried themselves in his flesh.  
Data.  
Two.  
Eyes.  
Blackness closed in from the edges of his visual field.  
The Gs crushed him against the seat.  
The wind pounded him.  
Data.  
Three.  
Eyes.  
The world was black.  
Six hundred thirty-two miles an hour. Burnout.  
The Gs stopped. He seemed to float forward in the chair.
halt by the sled. The flight surgeon hit the ground running. In an instant he was on the sled, pulling out the bite block and tearing at the chest straps.

As the straps fell away, Dr. Stapp gasped for air.

I can breathe.

He tried to open his eyes.

I can breathe, but I can't see.

It was a numb fact, data, uncolored by emotion.

Salmon pink. The world was salmon pink.

Ammonia bit at his nostrils. Did they think he had passed out? He turned his face angrily away from the oxygen mask that the flight surgeon was trying to clamp over his nose.

"I'm all right!"

His hands, freed from the straps, went to his eyes. His fingers prised the lids open. He pointed his face at the sky.


I can't see.

Data.

He felt the hands pull him from the sled, and he fought.

He was all right. He was just blind, that's all.

Salmon pink!

The eyes. The eyes, of course.

The chimps would never have told him that!

Chimps and bears could never have told him that the point of beginning injury, to a human, wasn't marked by torn muscles, injured kidneys, or shattered bones.

No, the point of beginning injury occurred when the dispassionate forces of physics begin to tear at the retinas and wrench the eyeballs from the head.

He still had his eyeballs. His fingers told him that. But if the retinas were torn loose, he would never see again.

Data.

The news cameras clicked, taking pictures of the man who had sped across the surface of the earth with the
speed of a .45 bullet, faster than anyone before him, the man who, just a few minutes ago, had become the fastest man on earth.

   It had been a perfect run, flawless, without incident. 
   Except for the eyes, of course.
   Eyes.
   He waited for an emotion, but there was nothing.
   It was data, all data.
   Someone wrapped a blood-pressure cuff around his arm. He felt the metallic touch of the stethoscope on his chest.
   Carefully, they laid him on a stretcher.
   The sky.
   Had the clouds closed in?
   Or was the sky blue?
   It wasn’t pink. He knew it wasn’t salmon pink.
   Holding his eyelids open with his fingers, he lay on the stretcher and strained to peer through the salmon-colored haze, willed himself to see blue sky. But the world stayed pink.
   He heard the door of the ambulance open. The stretcher lurched.
   He stared upward.
   Blind.
   A speck swam in the salmon-pink haze.
   He stared harder.
   Was it a speck of blue?
   Or imagination?
   He willed the speck to resolve.
   Yes, it was blue.
   Blue.
   And there was another. And another.
   The clouds were gone.
   He could see.
   Deep in his mind, below the level of data, beneath the graphs and equations, an emotion stirred.

As they slid him in the ambulance Dr. John Paul Stapp stared upward, wide-eyed, into the sky, the bright sky, the clear sky, the beautiful, beautiful blue desert sky that he loved.

His twenty-ninth ride was Dr. Stapp’s last. Shortly after he was released from the hospital the Air Force grounded him because, it was explained, he had become too valuable to risk. A few years later, they loaned him indefinitely to the Department of Transportation for research into automobile restraint systems.

Though the Air Force’s decision to order him to stay off the sled would remain a point of bitterness until his retirement, it did have one salutary effect on his lifestyle. Not long after the order was published, he fell in love and was married.

He and his wife live today in Alamogordo, not far from the International Space Hall of Fame. The following is taken from a large plaque displayed prominently in the hall.

K 24—camera (500 exposures per second) head-on view of the rocket sled decelerating in the water during a 1954 run

Courtest Dr. John Paul Stapp
JOHN PAUL STAPP
FASTEST MAN ON EARTH

Sled number one was ridden by Dr. John Paul Stapp in 1954 to evaluate the effects on human tissue during the extremely rapid changes in deceleration. Traveling faster than a .45 caliber bullet, reaching a peak of 632 miles per hour in 5 seconds, Dr. Stapp became known as the fastest man on earth. Deceleration changes equivalent to an open seat ejection from a cockpit at 1,800 miles per hour at 36,000 feet altitude were experienced. The space surgeon Stapp organized and founded the aeromedical facility, Edwards Air Force Base, California, and the aeromedical field laboratory, Holloman Air Force Base, New Mexico, and pioneered in research on the effects of mechanical forces on human tissue.