October 15th, 2019

Corvette Evolution Told Through Its Concepts

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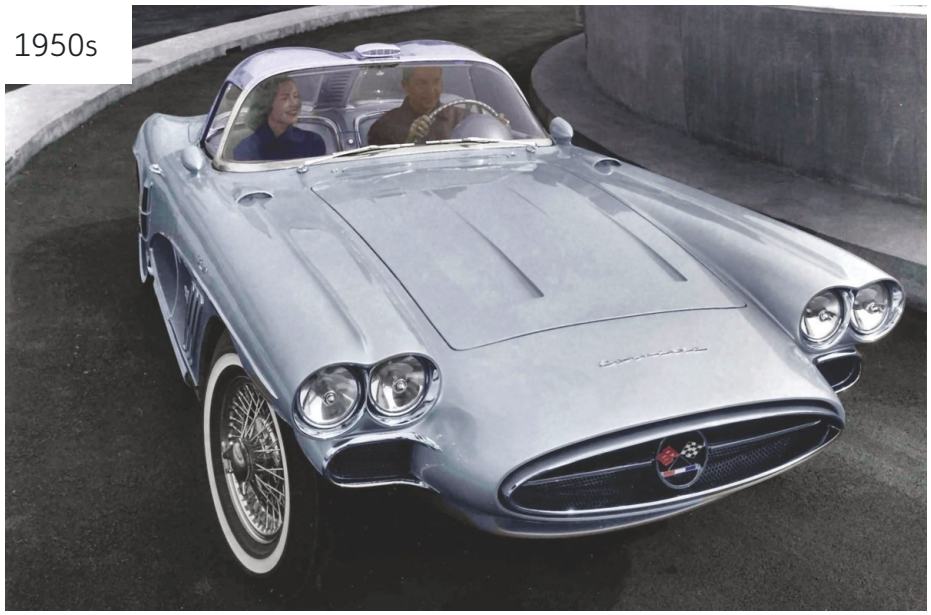


Some Were Only Dreams, Others Were the Cars That Dreams Were Made of

Chevrolet's Corvette has been with us for over five-and-a-half decades. Along the way a multitude of "concept" versions have been produced. Concept is the name given to cars that are experimental, either in design, engineering, and occasionally both. The latter was the category into which several Corvette concepts fell in the 1950s, and 1960s. Most ended up as scrap, some were redone, and many of them were never seen or heard of again after being displayed at Auto Shows. Some, however, were the basis for new models, new features, or the foundation for an entire generation. In fact, the very first Corvette, introduced at the 1953 Motorama in New York City, was itself a concept car.

he Corvette made its debut at the Waldorf-Astoria in January 1953. Various minor changes were made to this design for production. (Author's

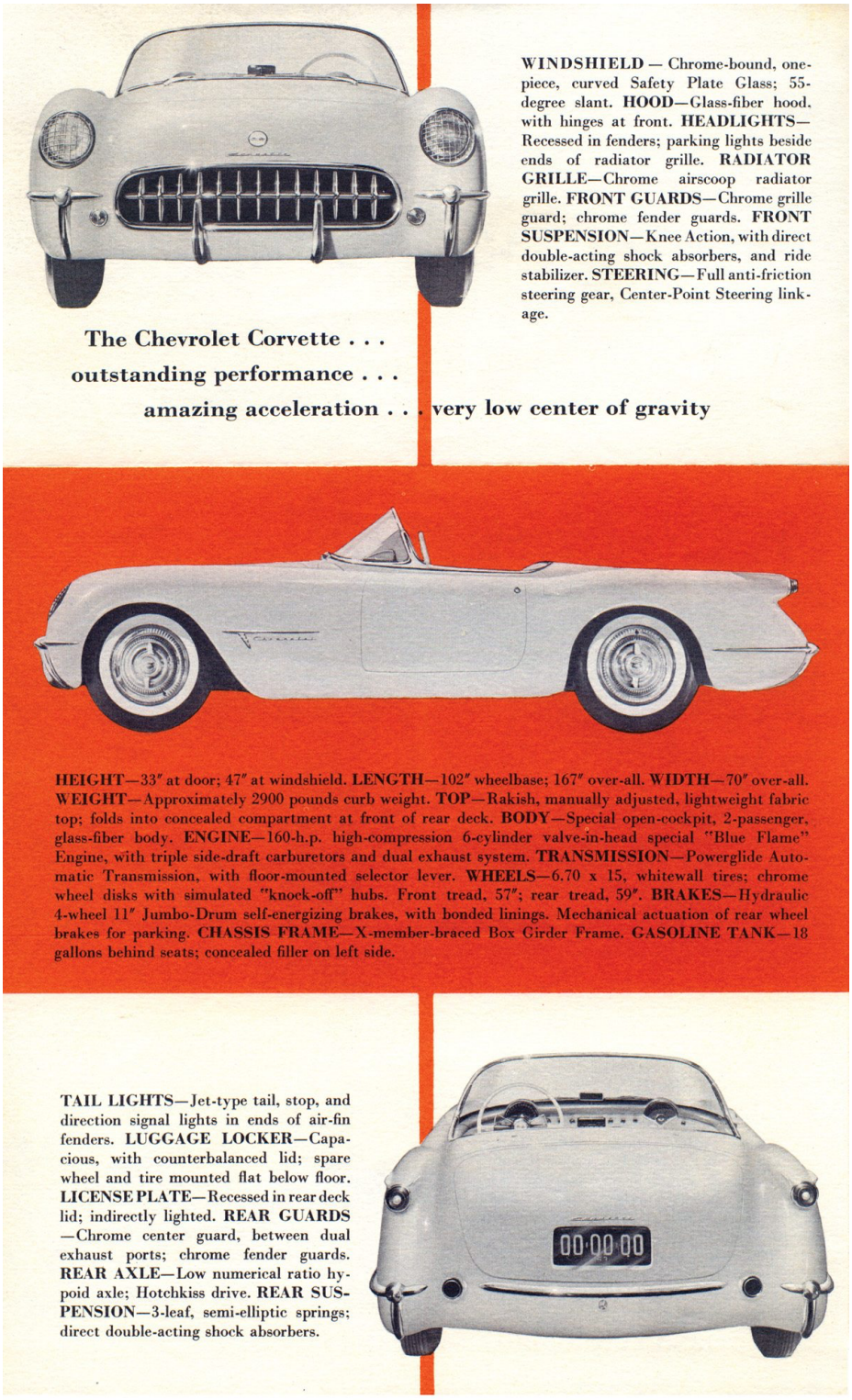
Collection)

1953 – The Original Corvettes

The creation of the Corvette was the pet project of GM Styling Chief, Harley Earl. His idea first led to two show cars and a "mule" for testing. One of the show cars debuted at the Waldorf-Astoria, the starting point of the 1953 General Motors Motorama tour. This fiberglass prototype, EX-52, Shop Order (S.O.) 1737, generated enough enthusiasm from the public to push production ahead by several months, resulting in the use of Fiberglas for the bodies to hasten production.

Prototype Corvettes differed notably from the production versions - they were heavier, constructed with thicker Fiberglas, and formed as a one piece body. For production, the upper front and lower front, upper rear and lower rear body sections were joined and the rocker panels were glued and riveted to the assembled body. The resulting seam was hidden with bright trim. Hydraulically operated hood and trunk lids were installed for display purposes on at least the first prototype; these panels opened and closed as the show car revolved on its turntable.

The beach made a spectacular setting for the original Corvette prototype. (Author's Collection)



A tri-fold brochure provided many details about the Corvette prototype. (Author's Collection)

Four more prototypes were ordered beyond EX-52, but two of these were soon cancelled. The "Waldorf" car was

assembled by GM Styling and Chevrolet Engineering, while the other two bodies were supplied by Fisher Body and assembled by the Chevrolet Experimental Department. The second show car was displayed in the U.S. and Canada. The two show prototypes were nearly identical, but the second car lacked the cowl scoops and Continental-type door pushbuttons of the first car. Other minor details varied under the hood as well as in the interior. The other prototype was used strictly for a variety of tests and was not show quality.

According to GM memos, the original EX-52 prototype was dismantled; its body was destroyed during flammability testing and its frame was altered for use on another show car, the 1954 Chevrolet Nomad. Presumably the other prototypes were scrapped.

The 1954 Prototypes

For a while, GM was considering a line of Corvettes, thus two Corvette-based prototypes - the Nomad (S.O. 1954) and the Corvair (S.O. 2071) - were crafted along with a mildly modified Corvette wearing a prototype detachable hardtop (S.O. 2000) for the 1954 GM Motorama.

The Corvette and Corvette-based show cars were spotlighted with this advertisement for the 1954 GM Motorama. These cars also appeared at many other auto shows in this country and abroad. (Author's Collection)

Carl Renner was put in charge of styling the two-door Nomad station wagon. Its side trim was similar to the 1953 Corvette prototypes, but extended to the doors. Conventional door handles rather than push-buttons

were employed and the exhausts exited through a port on each quarter panel. Since the overall height (54 inches) of the Nomad was low, the top of the roof was visible. Harley Earl saw a need to give this area some sort of visual interest; ultimately, a series of grooves running side-to-side on the roof, aft of the B-pillars, was chosen. Overall length and width measured 191 and 71 inches, respectively. Wheelbase spanned 115 inches - 13 inches more than a Corvette.

Upholstery for the bench seating was in a combination of blue, white, and silver leather and fabric. The rear seat could be folded forward to sit flush with the cargo floor. Overhead, a series of chrome bows decorated the white headliner. Embossed stainless steel covered the cargo floor. The lower rear panel under the tailgate opened downward allowing access to the spare tire.

Rumors persist that a '54 Nomad still exists, but an equally compelling account of one being scrapped is just as persistent; two examples being built would nicely explain both stories.

The Corvette and Corvette-based show cars pose together in Miami during February 1954. The "Hardtop" car joined the Motorama at this time. Note that the fastback Corvair is painted light green. A deep red Corvair was exhibited at the preceding Motorama in New York City. (Wayne Ellwood Collection)

The distinctive 51-inch high Corvair featured a panoramic windshield, a fastback roof that swept back to a jet exhaust-type opening, a trio of rectangular inlets on the fenders for interior ventilation, and twin bulges with chromed slotted vents on the hood to let the heat escape

the engine compartment. Exhaust vents for the interior air were mounted on the swept C-pillars and controlled with manual buttons inside the car. The show car was said to be powered with a stock Corvette driveline.

The Corvair was seen in two colors - a deep red and a pale blue-green. Changing the color of a Motorama car was not especially common, but it did happen. However, in the case of the Corvair, almost certainly two examples were built.

Regardless of the exterior color, the interior was upholstered in light beige leather; the pattern on the seats and the door panels differed from that of a production Corvette. A bulkhead sat directly behind the bucket seats while a filler plate covered the area from the bulkhead all the way back to the bottom of the backlight.

According to two eyewitnesses interviewed by this author for a 2003 story about the GM Motorama cars published in Car Collector magazine, (three part series published in issues Sept. Oct. and Nov. 2003) the car- described by both as a red 1953 to 1955 style Corvette fastback - was seen at Warhoops (salvage yard) sitting atop one or two other cars.

The first of the Corvettes with a prototype detachable hardtop was painted pale yellow. Other than the fiberglass top it featured roll-up windows, a glove box on the right kick panel, and waffle-pattern upholstery. (Author's Collection)

The other special Corvette displayed during that year's Motorama (starting with the Miami show) tour had a prototype fiberglass top in addition to roll-up windows. (Production Vettes had snap-in panels.) A taller windshield and frame assembly was installed on a 1953 Corvette painted pale yellow and its interior was outfitted with non-production waffle pattern upholstery, as well as a small glove box on the right kick panel. Door panels differed, too. Similarly patterned upholstery and door panels along with the hardtop were adopted for 1956.

Two of the hardtop cars were built. The second of these was displayed at Canadian shows and perhaps elsewhere.

It was taken off the assembly line and given nearly the same modifications as performed on the first car, but its color scheme was a gold-tinted maroon with a maroon interior. According to an article written by Wayne Ellwood and Noland Adams published in the Summer 1999 issue of SHARK Quarterly magazine, it was sold by GM in August 1957 to an employee of the Truck Sales Department in Oshawa, Ontario. This car still exists and is now owned by a resident of Vancouver, BC.

1955 – No New Ideas

No Corvette show cars were created for 1955. Production versions were displayed, though the one-year old 1954 show cars continued to be exhibited at dealerships and auto shows. One of the reasons was that the 1954 models had not sold well and hundreds were still sitting on dealer lots when the 1955 models were introduced. The Corvette's future was even in question until plans finally took shape for an all-new 1956 models.

1956 – The Corvette Impala

The 1956 Corvette Impala (XP-101, S.O. 2487) was the embodiment of what a Corvette as a five-passenger sports car could have been. This fiberglass show car

designed by Bob Cadaret (who worked on the new 1956 Corvette's design) and Carl Renner had a 225 horsepower Super Turbo-Fire V8 engine, "Powerglide" transmission, power windows, integral bumper and grille, tinted panoramic wraparound windshield that curved up into the pale blue-tinted brushed stainless steel roof, wraparound rear windshield, beltline dip near the reverse slant C-pillars, and chrome-plated wire wheels with knock-off hubs. The car's dual exhaust pipes passed through the driveshaft tunnel into a transverse-mounted muffler and the dual outlets from the muffler projected through the rear body panel.

The 1956 Impala (also known as XP-101, Shop Order 2487) was the embodiment of what a Corvette as a five-passenger sports car could have been. Corvette styling cues included the "toothy" grille and sloping shape of the quarter panels. In fact, its full name was Corvette Impala. (Author's Collection)

Exterior dimensions of the Corvette Impala were 74.4 inches wide, 53.7 inches high, and 202 inches in length; its wheelbase spanned 116.5 inches and road clearance measured six inches.

The show car's color for a while was similar - if not identical - to Aegean Turquoise Metallic, a color which was offered for the 1958 model Chevrolets. A photo of the car at the Chicago Auto Show in 1957 clearly shows the color was changed to a bright blue.

A padded bar of air foil shape emerged from the steering column and angled upward to flatten into a horizontal plane that spanned the entire width of the interior; it contained the various controls and teardrop shaped heater outlets. The center section of the padded cowl contained a recessed radio and drum clock. A speed warning system, consisting of ten circular windows across the instrument panel, were said to light up progressively in more intense shades of red as higher road speeds were attained. Upholstery was a combination of silver-blue vinyl and crosshatch pattern nylon. The front seat was equipped with a fold-down center armrest with a map case, while the rear seat featured a fixed central armrest

with power window switches, courtesy light, and ash tray. Seat belts and a sloping package tray were included as safety features.

Several styling cues of the Corvette Impala such as the reverse slant C-pillars were applied to the Impala introduced as part of the Bel Air series for the 1958 model year. Other features such as the Corvette-inspired grille were considered, but eventually rejected for production.
Reportedly this forerunner of the production Impala was scrapped.

1958 XP 700

Back in 1958, Harley Earl's protégé and successor, Bill Mitchell, designed a running concept car called the XP 700. Mitchell had just taken over from Earl as Chief of GM Styling. The XP 700 Dream Car ultimately led to the design of the 1961 and 1962 Corvette models. The dual headlights and fender treatment, rocker panel trim and new Sting Ray style rear end, all evolved from this car, so on occasion dreams do come true.

The XP 700 ultimately led to the design of the 1961 and 1962 Corvette models and the new Sting Ray style rear end, all of which evolved from this concept car. (Author's collection)

The Mako Sharks

While Corvette enthusiasts were taking in the sporty lines

of the new 1961 models, Mitchell and the design staff were building the Mako Shark, which in turn influenced the styling of the all-new 1963 Corvette. In 1965, the Mako Shark II set the styling pace for the 1968 model line. The aggressive look of the fourth generation Corvette was there in the Shark's muscular profile and bold front end design. One feature that never went past the concept stage was the car's unique fade-away paint scheme which duplicated the body coloring of a shark! There is one rumored tale that Mitchell had a shark mounted on the wall of his office and that this was the fading color scheme he wanted for the Mako Shark. The design team, after failing to get the exact match, took the shark off the wall and painted it to match the car! Mitchell never said anything.

1967 Astro I

More often, Corvette concept cars did not lead to the

design of a new model. If it had, the Astro I, shown in 1967, would have put GM light years ahead of the competition. The Astro I featured Chevrolet's flowback roof design. The car had an electric swing-back roof, instead of conventional doors, and a rear section combined with power elevator seats that allowed the driver and passenger to step right into the car and sit at armchair height. At the push of a button, the occupants were lowered to a semi-reclining position beneath the roof, which closed down to a height of only 35.5 inches. The Astro I was powered by an air-cooled, single overhead camshaft, six-cylinder engine. It was perhaps a bit too advanced for the 1960s but when you look at photos of the prototype today, a number of styling cues that appeared in later years, particularly on European sports cars are evident.

The Astro I featured Chevrolet's "flowback" roof design with an electric swing-back roof, instead of doors, and a rear section combined with power

elevator seats that allowed the driver and passenger to step right into the car and sit at armchair height. Chevrolet introduced the concept car for the 1967 show season. It remains one of the most innovative Dream Cars ever to come from General Motors. It was designed under the direction of GM Vice President of Design, Bill Mitchell, with the actual work led by stylist Larry Shinoda. The rear of the Astro I resembled a design one might have seen on a Can-Am racecar of the era. (Author's collection)

1964 CERV II and 1968 XP-880 Astro II

When the Corvette began to generate decent sales figures (due in large part to its getting a sporty, fuel-injected V8), the car's performance potential began to be explored more thoroughly, especially by Zora Arkus-Duntov. Bill Mitchell and Duntov supervised the design of some mid-engine prototypes for evaluation.

The 1964 CERV II was the first mid-engine car to feature full-time, four-wheel drive. It was followed four years later by the XP-880, ultimately dubbed Astro II. The debut of the Astro II at the 1968 New York Auto Show fueled rumors that a mid-engine Corvette was not far away and it countered the announcement by Ford Motor Company of its intention to sell the mid-engine, Italian-built DeTomaso Pantera. A GM press release about the car said it was "a practical, personal sports car designed to carry two passengers and their luggage comfortably and rapidly." General Motors' official press release did its part

to start the rumors of a mid-engine Corvette in the future when the final paragraph stated, “Astro II takes a big step in translating the excitement of its brilliantly colored predecessor [Astro I] into possible production reality…”

According to Chuck Jordan who went from stylist to GM’s fourth design vice president, the Astro II was “somewhat cobbled together” but its appearance did reflect “the design philosophy at the time.” The nose and the tail lights of the Astro II had a strong resemblance to the ’68 Corvette which represented the first year of production of the so-called Shark design. The car was shown for several years in various color schemes before being retired from the show circuit and is now a part of the GM Heritage Center collection. (Photo by David W. Temple and Author’s collections)

According to Chuck Jordan, who began working as a stylist for GM in 1949 and later became GM’s fourth design vice president, the Astro II was “somewhat cobbled together” but its appearance did reflect “the design philosophy at the time.” The nose and the

taillights of the Astro II XP-880 had a strong resemblance to the 1968 Corvette, which represented the first year of production of the so-called Shark design. The fiberglass body of the Astro II was mounted on a backbone type frame and a Corvette L-36 427 occupied the mid portion. A Powerglide two-speed automatic and Pontiac Tempest trans-axle got the 427's horsepower to the rear wheels. An aluminum radiator cooled by an electric fan was mounted in the aft end of the car.
The Astro II was followed by the XP-882, which represented "a more serious try" at a mid-engine Corvette, said Chuck Jordan. More than almost any other advanced concept car built during the late 1960s, Astro II came closest to production quality appearance and at one time was thought to be the next Corvette. Ultimately, it proved to be just one of several ideas, none of which ever saw the light of day.

A Corvette with a Wankle Rotary

Chevrolet was still thinking about a mid-engine sports car when it proposed the 4-Rotor in the early 1970s. This was yet another possible replacement for the fourth generation model. It incorporated a totally new body design, Mercedes-Benz-style 300 SL Gullwing doors, and

the innovative Chevrolet-Wankle rotary engine mounted amidships.

Chevrolet was still thinking about a mid-engine sports car when it proposed the “4-Rotor” in the early 1970s. This was yet another possible replacement for the fourth generation Corvette. It incorporated a totally new body design, Gullwing-type doors and a Chevrolet-Wankle rotary engine, mounted amidships. (GM Archives)

The engine boasted a displacement of 585 cubic inches with an output of 350 horsepower at 7000rpm. When GM’s rotary engine development program ended, the car was fitted with a V8 and renamed the Aerovette.
Cars like the Astro II and 4-Rotor could have changed the entire course of Corvette styling and engineering had their designs been adopted. In general, such wide sweeping changes seldom occur. Change, like ageing, is usually gradual. Exciting and seemingly production ready

concept cars like the 1990 CERV III may have pointed the way to the future, but it was not an absolute, just one possible future. That's why they're called concepts.

The second destination of the 1953 GM Motorama was the Diner Key Auditorium in Miami. Here the Corvette drew crowds just as it did everywhere it was shown. (Author's Collection)

This seldom seen top up view of the first Corvette prototype was taken in

Miami just prior to the opening of the Motorama at the Dinner Key Auditorium. (Author's Collection)

This is the second of two Corvettes modified for the prototype detachable hardtop. It was shown in Canada. In fact, this photo was taken at the 1955 Canadian National Exhibition. All of the 1954 Corvette-based show cars

continued to be shown that year. The wheel covers of this car appear to be completely stock units while those of the other show car had a cross-flags emblem in the spinner. (Canadian National Exhibition Archives)

The brilliant red Corvair was displayed on a turntable at the Waldorf-Astoria. The authors believe this to be one of two prototypes built. This car is reported to have been at Warhoops Auto & Truck Salvage until the late 1970s, though the current owner of the company does not believe that to be true. (GM Media Archive)

A pale blue-green Corvair was exhibited at the GM Motorama in Miami. It

also appeared at other venues of the traveling exhibition. The car's name was a contraction of Corvette and Bel Air. Had it been produced it would have been the third version of the original 1953 Corvette. This might have actually been a more popular car as the biggest complaint about the 1953 model was the top and drop-in side windows. (Author's Collection)

A brochure about the Nomad said the show car combined "the sleek styling of a sports car with the versatility and utility of a Station Wagon. The glass fiber reinforced plastic body affords unusual visibility and seating space for six passengers." Among its many features was an electrically operated rear window which would automatically retract into the tail gate as it is unlocked. This photo was taken at the Waldorf-Astoria in January 1954, the locale of the opening of the 1954 GM Motorama.

A brochure said the car ('56 Impala) "incorporates wholly new considerations in fine passenger car design from the standpoint of sleekness, safety, and luxury." Upholstery was a combination of silver-blue vinyl and crosshatch pattern nylon. The front seat was equipped with a fold-down center armrest with a map case, while the rear seat featured a fixed central armrest with power window switches, courtesy light, and ash tray. (Author's Collection)

The 1956 Corvette Impala was repainted blue by the time it reappeared at the Chicago Auto Show in 1957. The author believes this car was probably scrapped later that year. (Warren Kostelny Collection)

A GM-issued press release about the Astro II stated, “Inside, driver and passenger are snug, surrounded by well-padded surfaces which provide a maximum of lateral support - advantageous because of the high maneuverability of this vehicle. The instrumentation is normal with 270 degrees sweep speedometer and 8,000rpm tachometer. The conventional placement of gauges includes water temperature, air pressure, ammeter, and gasoline gauge. A sliding transmission selector replaces the usual lever.”
(Photo by David W. Temple)

The L36 version of the Corvette 427 coupled to a Powerglide and Pontiac Tempest trans-axle powered the Astro II. An aluminum radiator was mounted in the aft end of the car and was kept cool with an electric fan. This arrangement freed-up space in the front of the car for storage purposes and minimized the plumbing needed to route the coolant to the engine. (Photo by David W. Temple)

The CERV III was one of Chevrolet's most exciting concepts. First seen at the 1990 North American Auto Show in Detroit, it appeared to be the look of the Corvette's future. It was, in the end, just one possible direction GM could have taken and did not. (GM Archives)

OPCs, or Other People's Concepts, often went where GM feared to tread. The most dramatic departure put into limited production by Callaway was the 1996 SuperNatural Le Mans, which was based on the company's 1995 Le Mans GT2 Category racecar. (Dennis Adler photo)

One of the most exhilarating Corvette concepts of the 20th century was the 1992 Sting Ray III, what Chevrolet then described as, "incorporating the best of past Corvettes while surging into the future. This too, became little more than a dream to anxious Corvette enthusiasts. (Author's collection)

by Dennis Adler and David W. Temple

(Photos and colorized images from the author's collections)

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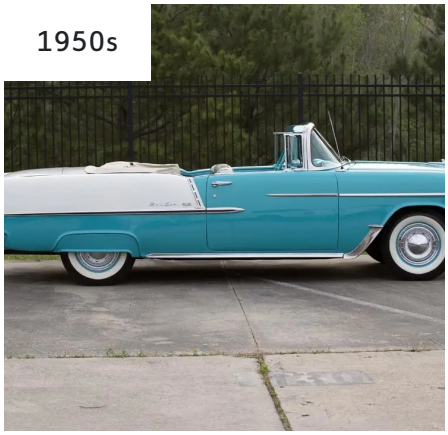

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