

Robert

DESIGNER: Liza Rasskazova

RELEASED: 2018

STYLES: Light, Regular, Book, Medium, Bold, Heavy, Black,
Light Italic, Regular Italic, Book Italic, Medium Italic,
Bold Italic, Heavy Italic, Black Italic

ABOUT TYPEFACE:

Robert is a modern twist of a classic. Named after Robert Beasley, the author of the first Clarendon typefaces, Robert takes inspiration from the chunky mechanical letters, created for the first time at the beginning of the 19th century for large display use. But take a closer look at the sharpness and carefully crafted curves and you'll see that this stands far from a historical revival. The expressive nature and the spirit of the Industrial Revolution are mixed with a hint of new technology and a powerful human touch, to turn Robert into a rational multifunctional type family with authoritative Romans and expressive Italics in 7 weights. Robert is also packed with all the extras that designers dream of: several sets of decorative numbers, arrows, hands, bullets, small caps, supplying even more tools for creative freedom and making the possibilities of its usage limitless.

Light

Regular

Book

Medium

Bold

Heavy

Black

Light Italic

Regular Italic

Book Italic

Medium Italic

Bold Italic

Heavy Italic

Black Italic

EDWIN HUBBLE'S ARRIVAL AT MOUNT WILSON OBSERVATORY, CALIFORNIA IN 1919

At that time, the prevailing view of the cosmos was that the universe consisted entirely of the *Milky Way Galaxy*

Using the Hooker Telescope at Mt. Wilson, Hubble identified Cepheid variables (a kind of star that is used as a means to determine the distance from the galaxy—see also standard candle) in several spiral nebulae, including the Andromeda Nebula and Triangulum. His observations, made in 1922–1923, proved conclusively that these nebulae were much too distant to be part of the *Milky Way* and were, in fact, entire galaxies outside our own, suspected by researchers at least as early as 1755 when Immanuel Kant's

GENERAL HISTORY OF NATURE & THEORY OF THE HEAVENS appeared. This idea had been opposed by many in the astronomy establishment of the time, in particular by Harvard University-based Harlow Shapley. Despite the opposition, Hubble, then a thirty-five-year-old scientist, had his findings first published in THE NEW YORK TIMES on November 23, 1924, and then more formally presented in the form of a paper at the January 1, 1925 meeting of the American Astronomical Society.

HUBBLE'S FINDINGS FUNDAMENTALLY CHANGED THE SCIENTIFIC VIEW

Supporters state that Hubble's discovery of nebulae outside of our galaxy helped pave the way for future astronomers. Although some of his more renowned colleagues simply scoffed at his

results, Hubble ended up publishing his findings on nebulae. This published work earned him an award titled the American Association Prize and five hundred dollars from Burton E. Livingston of the Committee on Awards. Hubble also devised the most commonly used system for classifying galaxies, grouping them according to their ap-

pearance in photographic images. He arranged the different groups of galaxies in what became known as the Hubble sequence. In 1929, in his first published paper, Hubble examined the relation between distance and redshift of galaxies. Combining his measurements of galaxy distances with measurements of the redshifts of the galaxies by

YET THE REASON FOR THE REDSHIFT REMAINED UNCLEAR. GEORGES LEMAÎTRE, A BELGIAN CATHOLIC PRIEST AND PHYSICIST, PREDICTED ON THEORETICAL GROUNDS BASED ON EINSTEIN'S EQUATIONS FOR GENERAL RELATIVITY THE REDSHIFT-DISTANCE RELATION, AND PUBLISHED OBSERVATIONAL SUPPORT FOR IT, TWO YEARS BEFORE THE DISCOVERY OF HUBBLE'S LAW. HOWEVER, MANY COSMOLOGISTS AND ASTRONOMERS (*INCLUDING HUBBLE HIMSELF*) FAILED TO RECOGNIZE THE WORK OF LEMAÎTRE; HUBBLE REMAINED DOUBTFUL ABOUT LEMAÎTRE'S INTERPRETATION FOR HIS ENTIRE LIFE. IN 1931 HE WROTE A LETTER TO THE DUTCH COSMOLOGIST WILLEM DE SITTER EXPRESSING HIS OPINION ON THE THEORETICAL INTERPRETATION OF THE REDSHIFT-DISTANCE RELATION: MR. HUMASON AND I ARE BOTH DEEPLY SENSIBLE OF YOUR GRACIOUS APPRECIATION OF THE PAPERS ON VELOCITIES AND DISTANCES OF NEBULAE. WE USE THE TERM 'APPARENT' VELOCITIES TO EMPHASIZE THE EMPIRICAL FEATURES OF THE CORRELATION. THE INTERPRETATION, WE FEEL, SHOULD BE LEFT TO YOU AND THE VERY FEW OTHERS WHO ARE COMPETENT TO DISCUSS THE MATTER WITH AUTHORITY

Today, the "apparent velocities" in question are understood as an increase in proper distance that occurs due to the expansion of space. Light traveling through stretching space will experience a Hubble-type redshift, a mechanism different from the Doppler effect (*although the two mechanisms become equivalent descriptions related by a coordinate transformation for nearby galaxies*).

In the 1930s, Hubble was involved in determining the distribution of galaxies and spatial curvature. These data seemed to indicate that

the universe was flat and homogeneous, but there was a deviation from flatness at large redshifts. According to Allan Sandage, Hubble believed that his count data gave a more reasonable result concerning spatial curvature if the redshift correction was made assuming no recession. To the very end of his writings he maintained this position, favouring (*or at the very least keeping open*) the model where no true expansion exists, and therefore that the redshift "represents a hitherto unrecognized principle of nature."



THERE WERE METHODOLOGICAL PROBLEMS

With Hubble's survey technique that showed a deviation from flatness at large redshifts. In particular, the technique did not account for changes in luminosity of galaxies due to galaxy evolution.

Earlier, in 1917, ALBERT EINSTEIN had found that his newly developed theory of general relativity indicated that the universe must be either expanding or contracting. Unable to believe what his own equations were telling him, Einstein introduced a cosmological constant (a “fudge factor”) to the equations to avoid this “problem”. When Einstein learned of Hubble’s redshifts, he immediately realized that the expansion predicted by General Relativity must be real, and in later life he said that

changing his equations was “the biggest blunder of [his] life.” In fact, Einstein apparently once visited Hubble and tried to convince him that the universe was expanding. Hubble also discovered the asteroid 1373 Cincinnati on August 30, 1935. In 1936 he wrote *The Observational Approach to Cosmology and The Realm of the Nebulae* which explained his approaches to extra-galactic astronomy and his view of the subject’s history.

THE BIG BANG THEORY

IS  **THE**  **PREVAILING**

COSMOLOGICAL  **MODEL**  **FOR**

THE  **UNIVERSE**  **FROM**  **THE**

EARLIEST  **KNOWN**  **PERIODS**

THROUGH  **ITS**  **SUBSEQUENT**

LARGE-SCALE  **EVOLUTION.**

THE  **MODEL**  **DESCRIBES**  **HOW**

THE  **UNIVERSE**  **EXPANDED**

FROM  **A**  **VERY**  **HIGH-DENSITY**

AND  **HIGH-TEMPERATURE**  **STATE,**

AND  **OFFERS**  **A**  **COMPREHENSIVE**

REDSHIFT INCREASES WITH DISTANCE

In physics, redshift happens when light or other electromagnetic radiation from an object is increased in wavelength, or shifted to the red end of the spectrum

In general, whether or not the radiation is within the visible spectrum, “redder” means an increase in wavelength—equivalent to a lower frequency and a lower photon energy, in accordance with, respectively, the wave and quantum theories of light. Some redshifts are an example of the Doppler effect, familiar in the change of apparent pitches of sirens and frequency of the sound waves emitted by speeding ve-

hicles. A redshift occurs whenever a light source moves away from an observer. A special instance of this is the cosmological redshift, which is due to the expansion of the universe, and sufficiently distant light sources (generally more than a few million light years away) show redshift corresponding to the rate of increase in their distance from EARTH.

FINALLY, GRAVITATIONAL REDSHIFT

Is a relativistic effect observed in electromagnetic radiation moving out of gravitational fields

Conversely, a decrease in wavelength is called blueshift and is generally seen when a light-emitting object moves toward an observer or when electromagnetic radiation moves into a gravitational field. However, redshift is a more common term and sometimes blueshift is referred to as negative redshift. Knowledge of redshifts and blueshifts has been applied to develop several terrestrial technologies such as Doppler radar and radar guns. Redshifts are also seen in the spectroscopic observations of astronomical objects. Its value is represented by the letter z

A special relativistic redshift formula (and its classical approximation) can be used to calculate the redshift of a nearby object when spacetime is flat. However, in many contexts, such as black holes and Big Bang cosmology, redshifts must be calculated using general relativity. Special relativistic, gravitational, and cosmological redshifts can be understood under the umbrella of frame transformation laws. There exist other physical processes that can lead to a shift in the frequency of electromagnetic radiation, including scattering and optical effects; however, the resulting changes are distinguishable from true redshift and are not generally referred to as such (see section on physical optics and radiative transfer). Combining his measurements of galaxy distances with measurements of the redshifts of the galaxies by Vesto Slipher, and by his assistant Milton L. Humason, he found a roughly linear relation between the distances of the galaxies and their redshifts, a discovery that later became known as Hubble's law.

**THIS MEANT,
THE GREATER THE DISTANCE
BETWEEN ANY TWO GALAXIES, THE
GREATER THEIR RELATIVE SPEED OF
SEPARATION. IF INTERPRETED THAT WAY,
HUBBLE'S MEASUREMENTS ON 46 GALAXIES
LEAD TO A VALUE FOR THE HUBBLE CONSTANT
OF 500 KM/S/MPC, WHICH IS MUCH HIGHER
THAN THE CURRENTLY ACCEPTED VALUE
OF 70 KM/S/MPC DUE TO ERRORS
IN THEIR DISTANCE
CALIBRATIONS**



DE EKSTRAGALAKTISKE TÅKENE

Последовательность Хаббла

NÉBULEUSE IDENTIFIÉE

EXTRAGALÁCTICAS

proměnné hvězdy

tähtitieteilijöistä

THE FIRST DOPPLER REDSHIFT

Was described by French physicist Hippolyte Fizeau in 1848, who pointed to the shift in spectral lines seen in stars as being due to the Doppler effect. The effect is sometimes called the “DOPPLER–FIZEAU EFFECT”

In 1868, British astronomer *William Huggins* was the first to determine the velocity of a star moving away from the EARTH by this method. In 1871, optical redshift was confirmed when the phenomenon was observed in Fraunhofer lines using solar rotation, about 0.1 Å in the red. In

1887, *Vogel* and *Scheiner* discovered the annual Doppler effect, the yearly change in the Doppler shift of stars located near the ecliptic due to the orbital velocity of the EARTH. In 1901, *Aristarkh Belopolsky* verified optical redshift in the laboratory using a system of rotating mirrors

EXPANSION OF SPACE

The expansion of the universe is the increase of the distance between two distant parts of the universe with time. It is an intrinsic expansion whereby the scale of space itself changes

The universe does not expand “into” anything and does not require space to exist “outside” it. Technically neither space, nor objects in space, move. Instead it is the metric governing the size and geometry of spacetime itself that changes in scale. Although light and objects within spacetime cannot travel faster than the speed of light, this limitation does not restrict the metric itself. To an observer it appears that space is expanding and all but the nearest galaxies are receding into the distance. During the inflationary

epoch about 10^{-32} of a second after the Big Bang, the universe suddenly expanded, and its volume increased by a factor of at least 10^{78} , equivalent to expanding an object 1 nanometer (10⁻⁹ m, about half the width of a molecule of DNA) in length to one approximately 10.6 light years (about 62 trillion miles) long. A much slower and gradual expansion of space continued after this, until at around 9.8 billion years after the Big Bang (4 billion years ago) it began to gradually expand more quickly, and is still doing so today.

BIG BANG COSMOLOGY

Metric expansion is a key feature of Big Bang cosmology, is modeled mathematically with the *Friedmann-Lemaître-Robertson-Walker* metric and is a generic property of the universe we inhabit. However, the model is valid only on large scales (roughly the scale of galaxy clusters and above), because gravitational attraction binds matter together strongly enough that metric expansion cannot be observed at this time, on a smaller scale. As such, the only galaxies receding from one another as a result of metric expansion are those separated by cosmologically relevant scales larger than the length scales associated with the gravitational collapse that are possible in the age of the universe given the matter density and average expansion rate. Physicists have postulated the existence of dark energy, appearing as a cosmological constant in the simplest gravitational models as a way to explain the acceleration. According to the simplest extrapolation of the currently-favored cosmological model, the Lambda-CDM model, this acceleration becomes more dominant into the future. In June 2016, NASA and ESA scientists reported that the universe was found to be expanding 5% to 9% faster than thought earlier, based on studies using the Hubble Space Telescope



The Hubble Space Telescope as seen from the departing Space Shuttle Atlantis, flying Servicing Mission 4 (STS-125), the fifth and final Hubble mission ↷

<i>Mission type</i>	Astronomy
<i>Operator</i>	NASA · ESA · STSCI
<i>COSPAR ID</i>	1990-037B
<i>SATCAT no.</i>	20580
<i>Website</i>	nasa.gov/hubble hubblesite.org spacetelescope.org
<i>Mission duration</i>	Elapsed: 28 years, 13 days

SPACECRAFT PROPERTIES

<i>Manufacturer</i>	Lockheed (spacecraft) Perkin-Elmer (optics)
<i>Launch mass</i>	11,110 kg (24,490 lb)
<i>Dimensions</i>	13.2 m × 4.2 m (43.3 ft × 13.8 ft)
<i>Power</i>	2,800 watts

START OF MISSION

<i>Launch date</i>	April 24, 1990, 12:33:51 UTC
<i>Rocket</i>	Space Shuttle Discovery (STS-31)
<i>Launch site</i>	Kennedy LC-39B
<i>Deployment date</i>	April 25, 1990
<i>Entered service</i>	May 20, 1990

END OF MISSION

<i>Decay date</i>	estimated 2030–2040
-------------------	----------------------------

ORBITAL PARAMETERS

<i>Reference system</i>	Geocentric
<i>Regime</i>	Low Earth
<i>Semi-major axis</i>	6,917.5 km (4,298.3 mi)

<i>Eccentricity</i>	0.000287
<i>Perigee</i>	537.4 km (333.9 mi)
<i>Apogee</i>	541.4 km (336.4 mi)
<i>Inclination</i>	28.47°
<i>Period</i>	95.47 minutes 1.35.25.83
<i>RAAN</i>	176.23°
<i>Argument of perigee</i>	82.61°
<i>Mean anomaly</i>	319.41°
<i>Mean motion</i>	15.09 rev/day
<i>Velocity</i>	7.59 km/s (4.72 mi/s)
<i>Epoch</i>	December 26, 2017, 13:18:33 UTC
<i>Revolution no.</i>	31,936

MAIN TELESCOPE

<i>Type</i>	Ritchey–Chrétien reflector
<i>Diameter</i>	2.4 m (7.9 ft)
<i>Focal length</i>	57.6 m (189 ft)
<i>Focal ratio</i>	f/24
<i>Collecting area</i>	4.5 m2 (48 sq ft)
<i>Wavelengths</i>	Near-infrared, visible light, ultraviolet

INSTRUMENTS

<i>NICMOS</i>	Near Infrared Camera and Multi-Object Spectrometer
<i>ACS</i>	Advanced Camera for Surveys
<i>WFC3</i>	Wide Field Camera 3
<i>COS</i>	Cosmic Origins Spectrograph
<i>STIS</i>	Space Telescope Imaging Spectrograph
<i>FGS</i>	Fine Guidance Sensor

ENGLISH → Edwin Powell Hubble was an American astronomer. He played a crucial role in establishing the fields of extragalactic astronomy and observational cosmology and is regarded as one of the most important astronomers of all time. Hubble discovered that many objects previously thought to be clouds of dust and gas and classified as “nebulae” were actually galaxies beyond the

DEUTSCH → Edwin Powell Hubble (*20. November 1889 in Marshfield, Missouri; † 28. September 1953 in San Marino, Kalifornien) war ein US-amerikanischer Astronom. Er klassifizierte die Spiralgalaxien, befasste sich mit der Expansion des Weltalls und entdeckte die Hubble-Konstante der galaktischen Kosmologie und ist Namensgeber des Hubble-Weltraumteleskops.

SPANISH → Edwin Powell Hubble (Marshfield, Misuri; 20 de noviembre de 1889-San Marino, California; 28 de septiembre de 1953) fue uno de los más importantes astrónomos estadounidenses del siglo XX, famoso principalmente por la creencia general de que en 1929 había demostrado la expansión del universo midiendo el corrimiento al rojo de galaxias distantes. Hubble es conside-

SWEDISH → Edwin Hubble var från 1919 verksam vid Mount Wilson-observatoriet i Kalifornien. Han tilldelades Bruce-medaljen 1938 och Royal Astronomical Societys guldmedalj 1940. På 1920-talet studerade Hubble de objekt som då kallades ”Spiralnebulosor” (idag spiralgalaxer) och han lyckades urskilja enskilda stjärnor i dessa. Eftersom han fann en typ av variabela stjärnor, cepheid-

HUNGARIAN → Edwin Powell Hubble (Marshfield, Missouri, 1889. november 20.—San Marino, Kalifornia, 1953. szeptember 28.) amerikai csillagász, aki felfedezte, hogy a galaxisok nem a Tejútrendszer részei, valamint felfedezte a kozmikus vöröseltolódást. Az elsők között érvelt amellett, hogy a távoli galaxisok vöröseltolódását a világegyetem tágulása okozza. A modern idők egyik ve-

FRENCH → Edwin Powell Hubble est un astronome américain. Il a permis d'améliorer la compréhension de la nature de l'Univers en démontrant l'existence d'autres galaxies en dehors de notre Voie lactée. En observant un décalage vers le rouge du spectre de plusieurs galaxies, il a montré que celles-ci s'éloignaient les unes des autres à une vitesse proportionnelle à leur distance.

ITALIAN → Edwin Powell Hubble (Marshfield, 20 novembre 1889–San Marino, 28 settembre 1953) è stato un astronomo e astrofisico statunitense. È noto principalmente per la scoperta, assieme a Milton Humason, nel 1929, della legge empirica spostamento verso il rosso/distanza, oggi giorno universalmente nota come legge di Hubble, la cui interpretazione in termini di velo-

FINNISH → Edwin Powell Hubble (20. marraskuuta 1889 Marshfield, Missouri—28. syyskuuta 1953 San Marino, Kalifornia) oli yhdysvaltalainen tähtitieteilijä. Hubble havaitsi ensimmäisenä, että kauempana olevat galaksit loittonevat nopeammin kuin lähellä olevat. Tästä voitiin päätellä, että maailmankaikkeus laajenee. Galaksien loitonemisnopeuden ja etäisyyden välisen suhteen kaava

TURKISH → Hubble ABD’de doğup büyüdü. Önceleri Chicago Üniversitesinde laboratuvar asistanlığı yaptı. Sonrasında Oxford Üniversitesinde hukuk okudu. Fakat Babası öldüğü zaman hukuktan vazgeçip astronomiye geri döndü. Yaşamının geri kalan bölümünde Wilson Dağı Gözlemevi’nde çalıştı. 1923’te Hubble, Andromeda adı verilen bir gökadayı inceledi. O zamanlar çoğu gök-

CZECH → Narodil se v roce 1889 ve státě Missouri a o několik let později se spolu s rodiči přestěhoval do Chicaga. Na Chicagské univerzitě studoval matematiku, fyziku a filozofii, v Oxfordu studoval práva a španělštinu. Po návratu do USA byl středoškolským učitelem, vyučoval v New Albany (stát Indiana). V roce 1917 na Chicagské univerzitě získal doktorát z astronomie. Měl možnost pozoro-

DANISH → Edwin Powell Hubble (født 20. november 1889, død 28. september 1953) var en amerikansk astronom. Hubble er kendt for opdagelsen af, at galakser bevæger sig væk fra hinanden, og at universet er dynamisk frem for statisk. Denne opdagelse medførte nogle [hvilke?] grundlæggende ændringer i Einsteins relativitetsteori og var med til at kassere Den Kosmologiske Kon-

LATVIAN → Edvīns Pauels Habls (angļu: Edwin Powell Hubble; dzimis 1889. gada 20. novembrī, miris 1953. gada 28. septembrī) bija ASV astronoms. Viņam bija izšķiroši svarīga loma starpgalaktiku astronomijā. Habla galvenā pētījumu joma bija galaktikas. 1924. gadā viņam Andromedas miglājā izdevās saskatīt atsevišķas zvaigznes un noteikt attālumu līdz tām. Tādā veidā Habls

LITHUANIAN → Edvinas Pauelas Hablas (1889 m. lapkričio 20–1953 m. rugsėjo 28) buvo žymus amerikiečių astronomas, atradęs kitas galaktikas už Paukščių tako galaktikos ribų ir galaktikų raudonąjį poslinkį (t. y. įrodęs, kad galaktikos tolsta viena nuo kitos—žr. Didysis Sprogimas). JAV nacionalinės MA akademikas (1927) m. Nuo 1919 m. vadovavo Maunt Vilsono observatorijai. Svarbiau-

ROMANIAN → Edwin Powell Hubble (n. 20 noiembrie 1889, Marshfield, Missouri—d. 28 septembrie 1953, San Marino, California) a fost un astronom și cosmolog american, fondatorul astronomiei extragalactice. A schimbat profund înțelegerea felului în care trebuie să concepem Universul prin demonstrarea existenței altor galaxii, altele decât cea a noastră, Calea Lactee. Hubble

POLISH → Edwin Powell Hubble (ur. 20 listopada 1889 w Marshfield w Missouri, zm. 28 września 1953 w San Marino w Kalifornii)—amerykański astronom, który jako pierwszy udowodnił, że „mgławice spiralne” są odległymi galaktykami znajdującymi się poza Drogą Mleczną. Jemu też przypisuje się odkrycie w 1921 roku zjawiska rozszerzania się Wszechświata, wyrażonego mate-

NORWEGIAN → Edwin Powell Hubble (født 20. november 1889 i Marshfield, Missouri, død 28. september 1953 i San Marino, California) var en amerikansk astronom som i 1929 beviste at galaksene beveger seg bort fra hverandre, noe som igjen beviser at universet utvider seg. Forut for dette—i 1924—beviste han også at galaksene—«de ekstragalaktiske tåkene»—er bygd opp på samme

PORTUGUESE → Edwin Powell Hubble (Marshfield, 20 de novembro de 1889 — San Marino, 28 de setembro de 1953) foi um astrônomo estadunidense. Famoso por ter descoberto que as até então chamadas nebulosas eram na verdade galáxias fora da Via Láctea, e que estas afastam-se umas das outras a uma velocidade proporcional à distância que as separa. Seu nome foi dado ao primeiro

CROATIAN → Edwin Hubble, punim imenom Edwin Powell Hubble (Marshfield, Missouri, SAD, 20. studenog 1889.—San Marino, Kalifornija, 28. rujna 1953.), američki astronom, poznat po otkriću čvrstih dokaza o širenju svemira. Edwin Hubble je bio jedan od prvih znanstvenika koji su tvrdili da crveni pomak u spektrima dalekih galaktika potječe od Dopplerovog učinka koji nastaje

BOSNIAN → Edwin Powell Hubble (Marshfield, Missouri, SAD, 20. novembar 1889—San Marino, Kalifornija 28. septembar 1953), američki astronom, poznat po otkriću širenja svemira Edwin Hubble je bio jedan od prvih naučnik koji su tvrdili da crveni pomak u spektrima dalekih galaksija potiče od dopplerovog efekta koji nastaje usljed širenja svemira. Hubble je bio jedan

ESTONIAN → Edwin Powell Hubble (20. november 1889 Marshfield—28. september 1953) oli ameerika astronoom, Galaktika-välise astronoomia rajaja ja Rahvusliku Teaduste Akadeemia liige. 1920ndatel aastatel tegi ta kaasaegse astronoomia tähtsaimad avastused, mis muutsid astronoomide arusaamu Universumist ja meie kohast sellest igaveseks. Enne Hubble'i avastusi uskus

RUSSIAN → Эдвин Пауэлл Хаббл (англ. Edwin Powell Hubble; 20 ноября 1889, Маршфилд, штат Миссури—28 сентября 1953, Сан-Марино, штат Калифорния)—один из наиболее влиятельных астрономов и космологов в XX веке, внесший решающий вклад в понимание структуры космоса. В 1914–1917 годах работал в Йеркской обсерватории, с 1919 года—в обсерватории Маунт-Вилсон. Член Национальной академии наук в Вашингтоне

BELOUSSIAN → У 1914—1917 гадах працаваў у Еркскай абсерваторыі, з 1919 года—у абсерваторыі Маўнт-Вілсан. Член Нацыянальнай акадэміі навук у Вашынгтоне з 1927 года. Грунтоўна змяніў разуменне Сусвету, пацвердзіўшы існаванне іншых галактык, а не толькі нашай. Таксама разглядаў ідэю аб тым, што велічыня эфекта Доплера, у дадзеным выпадку званым «чырвоная зрушэнне», назіраемага ў светлавым спектары аддаленых га-

SERBIAN → Едвин Пауел Хабл (енгл. Edwin Powell Hubble; Маршфилд, 20. новембар 1889—Сан Марино, 28. септембар 1953) је био амерички астроном који је одиграо кључну улогу у успостављању области вангалактичке астрономије и који се генерално сматра једним од најважнијих опсервационих космолога 20. века. Хабл је познат по томе што је показао да се рецесиона брзина галаксија сразмерно повећава с њиховим удаљеностима

UKRAINIAN → Едвін Павелл Габбл (часто також Хаббл, англ. Edwin Powell Hubble, (20 листопада 1889, Маршфілд, Місурі, США—28 вересня 1953, Сан-Марино, Каліфорнія, США)—американський астроном; дослідник галактик, позагалактичних туманностей, сформулював закон Габбла, створив класифікацію галактик. 1914 року повернувся до занять астрономією в Єркській обсерваторії Чиказького університету у місті Вільямс Бей, штат

MAKEDONIAN → Едвин Хабл (20 ноември 1889—28 септември 1953) — американски астроном. Тој е првиот научник кој докажал дека вселената се шири. Тој укажал на непосредната меѓу брзината на оддалечување на далечните галаксии и нивните оддалечености од Земјата, денес познати под името Хаблов Закон. Хабл е познат и по докажувањето дека галаксиите се наоѓаат надвор од Млечниот пат, како и по системот на класифицирање

BULGARIAN → Роден е на 20 ноември 1889 година в Маршфилд, Мисури, в семејството на Джон Пауъл Хџбъл и Вирџинија Лиј Джеймс. От малък се увлича по научно-фантастичните новели, като една от любимите му книги е „Двадесет хиляди левги под водата“ на Жул Верн. През 1898 г. семејството се премества да живее в Чикаго, където Хџбъл посещава гимназия. През 1906 получава стипендия за Чикагския университет.

FEATURE: OFF ON

FIGURES:

TABULAR LINING:

nov. 20.
1889nov. 20.
1889

TABULAR OLDSTYLE:

nov. 20.
I889nov. 20.
I889

SLASHED ZERO:

0 0

0 0

FRACTIONS:

3/4 space

3/4 space

SUPERSCRIPTS:

Celestial3

Celestial³

SUBSCRIPTS:

Celestial3

Celestial₃

CASE SENSITIVE FORMS:

¿W?
(ROBERT)
300 m/c¿W?
(ROBERT)
300 M/CFEATURE: OFF ON

SMALL CAPITALS

abcde

ABCDE

DISCRETIONARY LIGATURES (DLIG)

CIRCLED
NUMERALS:012345678910
+()

①②③④⑤⑥⑦⑧⑨⑩

FILL:

012345678910
+[]

●●●●●●●●●●

ARROWS:

-> | <- | ^- | -^

→ | ← | ↓ | ↑

LANGUAGE FEATURE:

BULGARIAN:

абвгдеёжзийкл
мнопрстуфхцч
шщъыьэюяабвгдеёжзийкл
мнопрстуфхцч
шщъыьэюя

SERBIAN:

абвгдеёжзийкл
мнопрстуфхцч
шщъыьэюяабвгдеёжзийкл
мнопрстуфхц
чшщъыьэюя

RELEASED: 2018

SUPPORTED LANGUAGES: Afrikaans, Albanian, Asu, Basque, Belarusian, Bemba, Bena, Bosnian, Bulgarian, Catalan, Chiga, Colognian, Cornish, Croatian, Czech, Danish, Dutch, Embu, English, Esperanto, Estonian, Faroese, Filipino, Finnish, French, Friulian, Galician, Ganda, German, Gusii, Hungarian, Icelandic, Inari Sami, Indonesian, Irish, Italian, Jola-Fonyi, Kabuverdianu, Kalenjin, Kamba, Kikuyu, Kinyarwanda, Latvian, Lithuanian, Lower Sorbian, Luo, Luxembourgish, Luyia, Macedonian, Machame, Makhuwa-Meetto, Makonde, Malagasy, Malay, Maltese, Manx, Meru, Morisyen, North Ndebele, Northern Sami, Norwegian Bokmål, Norwegian Nynorsk, Nyankole, Oromo, Polish, Portuguese, Romanian, Romansh, Rombo, Rundi, Russian, Rwa, Samburu, Sango, Sangu, Scottish Gaelic, Sena, Serbian, Shambala, Shona, Slovak, Slovenian, Soga, Somali, Spanish, Swahili, Swedish, Swiss German, Taita, Teso, Turkmen, Upper Sorbian, Vunjo, Walser, Welsh, Western Frisian, Zulu

FILE FORMATS: Desktop: OTF
Web: WOFF, WOFF2, EOT
App: OTF, TTF

LICENSES: Desktop
You will receive font files in OTF format to install and use on your computer. You may install and use the font software on the number of computers specified in your receipt. A one-time, perpetual licence. All the computers the fonts will be installed at must belong to the same organization. You can not share the font files with any of your collaborators (freelancers, printers, etc.) unless you purchased a third-party licence.

Other
Third-party, eBook, Broadcast, Game, Server, Corporate licenses are available by request. Please contact us for more information.

ABOUT CONTRAST FOUNDRY: We develop font solutions for many well-known brands. We design and develop fonts, logos and licencing solutions for customers from all over the world.

Web
You will receive font files in WOFF, WOFF2, EOT formats for hosting on your server. Webfonts can be used across multiple websites/domains as long as the websites/domains all belong to the single Licence Owner, and the agreed number of page views are not exceeded.

App
You will receive font files in OTF and TTF formats to embed in a mobile app. It is a license to embed font software inside an application operating on a mobile terminal running iOS, Android or Windows Mobile. All the applications that have the fonts embedded inside them must belong to the licensee organization. A one-time, perpetual licence.