

Supplementary Materials

A Importance Score (IS) Curves

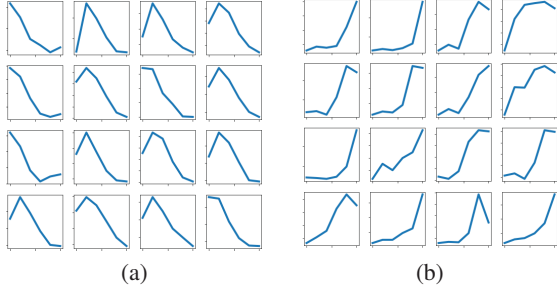


Figure 9: (a) Importance score of 16 transformer factors corresponding to low level information. (b) Importance score of 16 transformer factors corresponds to mid level information respectively.

The importance score curve’s characteristic has a strong correspondence to a transformer factor’s categorization. Based on the location of the peak of an IS curve, we can classify a transformer factor as low-level, mid-level or high-level. The importance score for low-level transformer factors peak in early layers and slowly decrease across the rest of the layers. On the other hand, the importance score for mid-level and high-level transformers slowly increases and peaks at higher layers. In Figure 9, we show two sets of the examples to demonstrate the clear distinction between those two types of IS curves.

Taking a step back, we can also plot IS curve for each dimension of word vector (without sparse coding) at different layers. They do not show any specific patterns, as shown in Figure 10. This makes intuitive sense since we mentioned that each of the entries of a contextualized word embedding does not correspond to any clear semantic meaning.

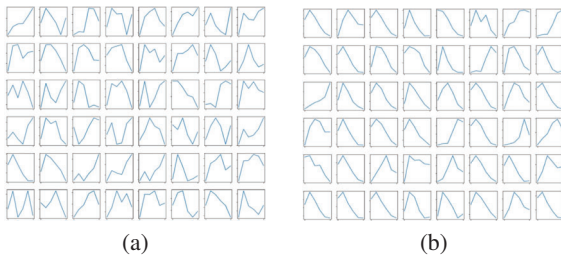


Figure 10: (a) Importance score calculated using certain dimension of word vectors without sparse coding. (b) Importance score calculated using sparse coding of word vectors.

B LIME: Local Interpretable Model-Agnostic Explanations

After we trained the dictionary Φ through non-negative sparse coding, the inference of the sparse code of a given input is

$$\alpha(x) = \arg \min_{\alpha \in \mathbb{R}} \|x - \Phi\alpha\|_2^2 + \lambda \|\alpha\|_1$$

For a given sentence and index pair (s, i) , the embedding of word $w = s[i]$ by layer l of transformer is $x^{(l)}(s, i)$. Then we can abstract the inference of a specific entry of sparse code of the word vector as a black-box scalar-value function f :

$$f((s, i)) = \alpha(x^{(l)}(s, i))$$

Let *RandomMask* denotes the operation that generates perturbed version of our sentence s by masking word at random location with “[UNK]” (unknown) tokens. For example, a masked sentence could be

[Today is a [‘UNK’],day]

Let h denote a encoder for perturbed sentences compared to the unperturbed sentence s , such that

$$h(s)_t = \begin{cases} 0 & \text{if } s[t] = [\text{‘UNK’}] \\ 1 & \text{Otherwise} \end{cases}$$

The LIME algorithm we used to generated saliency map for each sentences is the following:

Algorithm 1 Explaining Sparse Coding Activation using LIME Algorithm

- 1: $\mathcal{S} = \{h(s)\}$
 - 2: $\mathcal{Y} = \{f(s)\}$
 - 3: **for** each i in $\{1, 2, \dots, N\}$ **do**
 - 4: $s'_i \leftarrow \text{RandomMask}(s)$
 - 5: $\mathcal{S} \leftarrow \mathcal{S} \cup h(s'_i)$
 - 6: $\mathcal{Y} \leftarrow \mathcal{Y} \cup f(s'_i)$
 - 7: **end for**
 - 8: $w \leftarrow \text{Ridge}_w(\mathcal{S}, \mathcal{Y})$
-

Where Ridge_w is a weighted ridge regression defined as:

$$w = \arg \min_{w \in \mathbb{R}^t} \|\mathcal{S}\Omega w - \mathcal{Y}\|^2 + \lambda \|w\|_2^2$$

$$\Omega = \text{diag}(d(h(\mathcal{S}_1), \vec{1}), d(h(\mathcal{S}_2), \vec{1}), \dots, d(h(\mathcal{S}_n), \vec{1}))$$

$d(\cdot, \cdot)$ can be any metric that measures how much a perturbed sentence is different from the original sentence. If a sentence is perturbed such that every token is being masked, then the distance $h(h(s'), \vec{1})$

should be 0, if a sentence is not perturbed at all, then $h(h(s'), \vec{1})$ should be 1. We choose $d(\cdot, \cdot)$ to be cosine similarity in our implementation.

In practice, we also uses feature selection. This is done by running LIME twice. After we obtain the regression weight w_1 for the time, we use it to find the first k indices corresponds to the entry in w_1 with highest absolute value. We use those k index as location in the sentence and apply LIME for the second time with only those selected indices from step 1.

Overall, the regression weight w can be regarded as a saliency map. The higher the weight w_k is, the more important the word $s[k]$ in the sentence since it contributes more to the activation of a specific transformer factor.

We could also have negative weight in w . In general, negative weights are hard to interpret in the context of transformer factor. The activation will increase if they are removed those word correspond to negative weights. Since a transformer factor corresponds to a specific pattern, then word with negative weights are those word in a context that behaves “opposite” of this pattern.

C The Details of the Non-negative Sparse Coding Optimization

Let S be the set of all sequences, recall how we defined word embedding using hidden state of transformer in the main section: $X^{(l)} = \{x^{(l)}(s, i) | s \in S, i \in [0, len(s)]\}$ as the set of all word embedding at layer l , then the set of word embedding across all layers is defined as

$$X = X^{(1)} \cup X^{(2)} \cup \dots \cup X^{(L)}$$

In practice, we use BERT base model as our transformer model, each word embedding vector (hidden state of BERT) is dimension 768. To learn the transformer factors, we concatenate all word vector $x \in X$ into a data matrix A . We also defined $f(x)$ to be the frequency of the token that is embedded in word vector x . For example, if x is the embedding of the word “the”, it will have a much larger frequency i.e. $f(x)$ is high.

Using $f(x)$, we define the Inverse Frequency Matrix Ω : Ω is a diagonal matrix where each entry on the diagonal is the square inverse frequency of each word, i.e.

$$\Omega = \text{diag}\left(\frac{1}{\sqrt{f(x_1)}}, \frac{1}{\sqrt{f(x_2)}}, \dots\right)$$

Then we use a typical iterative optimization procedure to learn the dictionary Φ described in the main section:

$$\min_A \frac{1}{2} \|X - \Phi A\|_F^2 + \lambda \sum_i \|\alpha_i\|_1, \text{ s.t. } \alpha_i \succeq 0, \quad (2)$$

$$\min_{\Phi} \frac{1}{2} \|X - \Phi \Omega A\|_F^2, \|\Phi_{:,j}\|_2 \leq 1. \quad (3)$$

These two optimizations are both convex, we solve them iteratively to learn the transformer factors: In practice, we use minibatches contains 200 word vectors as X . The motivation of apply Inverse Frequency Matrix Ω is that we want to make sure all words in our vocabulary has the same contribution. When we sample our minibatch from A , frequent words like “the” and “a” are much likely to appear, which should receive lower weight during update.

Optimization 2 can converge in 1000 steps using the FISTA algorithm². We experimented with different λ values from 0.03 to 3, and choose $\lambda = 0.27$ to give results presented in this paper. Once the sparse coefficients have been inferred, we update our dictionary Φ based on Optimization 3 by one step using an approximate second-order method, where the Hessian is approximated by its diagonal to achieve an efficient inverse (Duchi et al., 2011). The second-order parameter update method usually leads to much faster convergence. Empirically, we train 200k steps and it takes roughly 2 days on a Nvidia 1080 Ti GPU.

D Hyperlinks for More Transformer Visualization

In the following three sections, we provide visualization of more example transformer factor in low-level, mid-level, and high-level. Here’s table of Contents that contain hyperlinks which direct to each level:

- Low-Level: [E](#)
- Mid-Level: [F](#)
- High-Level: [G](#)

²The FISTA algorithm can usually converge within 300 steps, we use 1000 steps nevertheless to avoid any potential numerical issue.

E Low-Level Transformer Factors

Transformer factor 2 in layer 4

Explanation: Mind: noun, the element of a person that enables them to be aware of the world and their experiences.

- that snare shot sounded like somebody' d kicked open the door to your **mind**".
- i became very frustrated with that and finally made up my **mind** to start getting back into things."
- when evita asked for more time so she could make up her **mind**, the crowd demanded," ¡ ahora, evita,<
- song and watch it evolve in front of us... almost as a **memory** in your head.
- was to be objective and to let the viewer make up his or her own **mind**."
- managed to give me goosebumps, and those moments have remained on my **mind** for weeks afterward."
- rests the tir' d **mind**, and waking loves to dream
- , tracks like' halftime' and the laid back' one time 4 your **mind**' demonstrated a[high] level of technical precision and rhetorical dexter
- so i went to bed with that on my **mind**".
- ment to a seed of doubt that had been playing on mulder' s **mind** for the entire season".
- my poor friend smart shewed the disturbance of his **mind**, by falling upon his knees, and saying his prayers in the street
- donoghue complained that lessing has not made up her **mind** on whether her characters are" the salt of the earth or its sc
- release of the new lanois@-@ produced album, time out of **mind**.
- sympathetic man to illegally" ghost@-@ hack" his wife' s **mind** to find his daughter.
- this album veered into" the corridors" of flying lotus'" own **mind**", interpreting his guest vocalists as" disembodied phantom

Transformer factor 16 in layer 4

Explanation: Park: noun, 'park' as the name

- allmusic writer william ruhlmann said that" linkin **park** sounds like a johnny@-@ come@-@ lately to an
- nington joined the five members xero and the band was renamed to linkin **park**.
- times about his feelings about gordon, and the

price family even sat away from **park**' s supporters during the trial itself.

- on 25 january 2010, the morning of **park**' s 66th birthday, he was found hanged and unconscious in his
- was her, and knew who had done it", expressing his conviction of **park**' s guilt.
- jeremy **park** wrote to the north@-@ west evening mail to confirm that he
- vanessa fisher, **park**' s adoptive daughter, appeared as a witness for the prosecution at the
- they played at< unk> for years before joining oldham athletic at boundary **park** until 2010 when they moved to oldham borough' s previous ground,<
- theme **park** guests may use the hogwarts express to travel between hogsmead
- s strength in both singing and rapping while comparing the sound to linkin **park**.
- in a statement shortly after **park**' s guilty verdict, he said he had" no doubt" that
- june 2013, which saw the band travel to rock am ring and rock im **park** as headline act, the song was moved to the middle of the set
- after spending the first decade of her life at the central **park** zoo, pattycake moved permanently to the bronx zoo in 1982.
- south park spoofed the show and its hosts in the episode" south **park** is gay!"
- harrison" sounds like he' s recorded his vocal track in one of the **park**' s legendary caves".

Transformer factor 30 in layer 4

Explanation: left: verb, leaving, exiting

- did succeed in getting the naval officers into his house, and the mob eventually **left**.
- all of the federal troops had **left** at this point, except totten who had stayed behind to listen to
- saying that he has **left** the outsiders, kovu asks simba to let him join his pride
- eventually, all boycott' s employees **left**, forcing him to run the estate without help.
- the story concerned the attempts of a scientist to photograph the soul as it **left** the body.
- in time and will slowly improve until he returns to the point at which he **left**.
- peggy' s exit was a" non event", as" peggy just **left**, nonsensically and at complete odds with everything we' ve

- over the course of the group's existence, several hundred people joined and left.
- no profit was made in six years, and the church left, losing their investment.
- on 7 november he left, missing the bolshevik revolution, which began on that day.
- he had not re-written his will and when produced still left everything to his son lunailo.
- they continued filming as normal, and when lynch yelled cut, the townspeople had left.
- with land of black gold(1950), a story that he had previously left unfinished, instead.
- he was infuriated that the government had left thousands unemployed by closing down casinos and brothels.
- an impending marriage between her and albert interfered with their studies, the two brothers left on 28 august 1837 at the close of the term to travel around europe

Transformer factor 33 in layer 4

Explanation: light: noun, the natural agent that stimulates sight and makes things visible:

- forced to visit the sarajevo television station at night and to film with as little light as possible to avoid the attention of snipers and bombers.
- by the modest, cream-colored attire in the airy, light-filled clip.
- the man asked her to help him carry the case to his car, a light brown volkswagen beetle.
- they are portrayed in a particularly sympathetic light when they are killed during the ending.
- caught up" was directed by mr. x, who was behind the laser light treatment of usher's 2004 video" yeah!"
- piracy in the indian ocean, and the script depicted the pirates in a sympathetic light.
- without the benefit of moon light, the light horsemen had fired at the flashes of the enemy's
- second innings, voce repeated the tactic late in the day, in fading light against woodfull and bill brown.
- , and the workers were transferred on 7 july to another facility belonging to early light, 30 km away in town.
- brooklyn avenue ne near the university of washington campus in a small light industrial building leased from the university.

- factory where the incident took place is the early light toy factory, owned by hong
- , a 1934 comedy in which samuel was portrayed in an unflattering light, and mrs beeton, a 1937 documentary,
- stage effects and blue-red light transitions give the video a surreal feel, while a stoic crowd make
- set against the backdrop of mumbai's red-light districts, it follows the travails of its personnel and principal,
- themselves on the chinese flank in the foothills, before scaling the position at first light.

Transformer factor 47 in layer 4

Explanation: plants: noun, vegetation

- the distinct feature of the main campus is the mall, which is a large tree-laden grassy area where many students go to relax.
- each school in the london borough of hillington was invited to plant a tree, and the station commander of raf northolt, group captain tim o
- its diet in summer contains a high proportion of insects, while more plant items are eaten in autumn.
- large fruitings of the fungus are often associated with damage to the host tree, such as that which occurs with burning.
- she nests on the ground under the cover of plants or in cavities such as hollow tree trunks.
- orchards, heaths and hedgerows, especially where there are some old trees.
- the scent of plants such as yarrow acts as an olfactory attractant to females.
- of its grasshopper host, causing it to climb to the top of a plant and cling to the stem as it dies.
- well-drained or sandy soil, often in the partial shade of trees.
- food is taken from the ground, low-growing plants and from inside grass tussocks; the crane may search leaf
- into his thought that the power of gravity(which brought an apple from a tree to the ground) was not limited to a certain distance from earth,
- they eat both seeds and green plant parts and consume a variety of animals, including insects, crustaceans
- fyne, argyll in the 1870s was named as the uk's

tallest [tree](#) in 2011.

- ", or colourless enamel, as in the ground areas, rocks and [trees](#).
- produced from 16 to 139 weeks after a forest fire in areas with coniferous [trees](#).

This is the end of visualization of low-level transformer factor. Click [\[D\]](#) to go back.

F Mid-Level Transformer Factors

Transformer factor 13 in layer 10

Explanation: Unit exchange with parentheses: e.g. 10 m (1000cm)

- 14@-@ 16 hand(56 to 64 inches(140 to 160 cm)) war horse is that it was a matter of pride to a
- , behind many successful developments, defaulted on the\$ 214 million(\$ 47 billion) in bonds held by 60@,@ 000 investors; the van
- straus, behind many successful developments, defaulted on the\$ 214 million(\$ 47 billion) in bonds held by 60@,@ 000 investors;
- the niche is 4 m(13 ft) wide and 3@.
- with a top speed of nearly 21 knots(39 km/ h; 24 mph).
- @ 4 billion(us\$ 21 million) — india' s highest@-@ earning film of the year
-) at deep load as built, with a length of 310 ft(94 m), a beam of 73 feet 7 inches(22@.
- @ 3@-@ inch(160 mm) calibre steel barrel.
- and gave a maximum speed of 23 knots(43 km/ h; 26 mph).
- 2 km) in length, with a depth around 790 yards(720 m), and in places only a few yards separated the two sides.
- hull provided a combined thickness of between 24 and 28 inches(60 – 70 cm), increasing to around 48 inches(1@.
- switzerland, austria and germany; and his mother, lynette federer(born durand), from kempton park, gauteng, is
- @ 2 in(361 mm) thick sides.
-) and a top speed of 30 knots(56 km/ h; 35 mph).
- , an outdoor seating area(4@,@ 300 square feet(400 m2)) and a 2@,@ 500@-@ square@

Transformer factor 24 in layer 10

Explanation: Male name

- divorcing doqui in 1978, michelle married robert h. tucker, jr. the following year, changed her name to gee tucker, moved back
- divorced doqui in 1978 and married new orleans politician robert h. tucker, jr. the following year; she changed her name to gee tucker and became
- including isabel sanford, when chuck and new orleans politician robert h. tucker, jr. visited michelle at her hotel.

- of 32 basidiomycete mushrooms showed that mutinus elegans was the only species to show antibiotic(both antibacterial
- amphicoelias, it is probably synonymous with camarasaurus grandis rather than c. supremus because it was found lower in the
- [her] for warmth and virtue" and mehul s. thakkar of the deccan chronicle wrote that she was successful in" deliver[
- em(queen latifah) and uncle henry(david alan grier) own a diner, to which dorothy works for room and board.
- in melbourne on 10 august 1895, presented by dion boucicault, jr. and robert brough, and the play was an immediate success.
- in the early 1980s, james r. tindall, sr. purchased the building, the construction of which his father had originally financed
- in 1937, when chakravarthi rajagopalachari became the chief minister of madras presidency, he introduced hindi as a compulsory
- in 1905 william lewis moody, jr. and isaac h. kempner, members of two of galveston'
- also, walter b. jones, jr. of north carolina sent a letter to the republican conference chairwoman cathy
- empire' s leading generals, nikephoros bryennios the elder, the doux of dyrrhachium in the western balkans
- in bengali as< unk>: the warrior by raj chakraborty with dev and mimi chakraborty portraying the lead roles.
- on 1 june 1989, erik g. braathen, son of bjørn g., took over as ceo

Transformer factor 25 in layer 10

Explanation: Attributive Clauses

- which allows japan to mount an assault on the us; or kill him, which lets the us discover japan' s role in rigging american elections —
- certain stages of development, and constitutive heterochromatin that consists of chromosome structural components such as telomeres and centromeres
- to the mouth of the nueces river, and oso bay, which extends south to the mouth of oso creek.
- @,@ 082 metric tons, and argentina, which ranks 17th, with 326@,@ 900 metric tons.
- of\$ 42@,@ 693 and females had a median

income of \$34 million, @ 795.

- ultimately scored 14 points with 70 per cent shooting, and Crispin, who scored twelve points with 67 per cent shooting.
- and is operated by Danish Air Transport, and one jetstream 32, which seats 19 and is operated by Helitrans.
- acute stage, which occurs shortly after an initial infection, and a chronic stage that develops over many years.
- Earl of Warwick and then William of Lancaster, and Ada de Warenne who married Henry, Earl of Huntingdon.
- who ultimately scored 14 points with 70 per cent shooting, and Crispin, who scored twelve points with 67 per cent shooting.
- in America, while "Halo/Walking on Sunshine" charted at number 4 in Ireland, 9 in the UK, 10 in Australia, 28 in Canada
- five events, heptathlon consisting of seven events, and decathlon consisting of ten every multi event, athletes participate in a
- @-@ life of 154 @, @ 000 years, and 235np with a half @-@ life of 396 @.
- comfort, and intended to function as the prison, and the second floor was better finished, with a hall and a chamber, and probably operated as the
- b, which serves the Quonset Freeway, and Exit 7a, which serves route 402 (Frenchtown Road), another spur route connecting the

Transformer factor 42 in layer 10

Explanation: Some kind of disaster, something unfortunate happened

- after the first five games, all losses, Jeff Carter suffered a broken foot that kept him out of the line @-@ up for
- Allingham died of natural causes in his sleep at 3:10 am on 18 July 2009 at his
- upon reaching Corfu, thousands of Serb troops began showing symptoms of typhus and had to be quarantined on the island of < un
- than a year after the Senate general election, the September 11, 2001 terrorist attacks took place, with Giuliani still mayor.
- the starting job because fourth @-@ year junior Grady was under suspension related to driving while intoxicated charges.
- his majesty, but as soon as they were on board

ship, they died of melancholy, having refused to eat or drink.

- on 16 September 1918, before she had even gone into action, she suffered a large fire in one of her 6 @-@ inch magazines, and
- orange goalkeeper for long @-@ time starter John Galloway who was sick with the flu.
- in 1666 his Andover home was destroyed by fire, supposedly because of "the carelessness of the maid".
- the government, on 8 February, admitted that the outbreak may have been caused by semi @-@ processed turkey meat imported directly
- Ikromo came under investigation by the Justice Office of the Dutch East Indies for publishing several further anti @-@ Dutch editorials.
- that he could attend to the duties of his office, but fell ill with a fever in August 1823 and died in office on September 1.
- @ 2 billion initiative to combat cholera and the construction of a \$17 million teaching hospital in < unk
- he would not hear from his daughter until she was convicted of stealing from playwright George Axelrod in 1968, by which time Rosaleen
- relatively hidden location and proximity to Piccadilly Circus, the street suffers from crime, which has led to Westminster City Council gating off the man in

Transformer factor 50 in layer 10

Explanation: Doing something again, or making something new again

- 2007 saw the show undergo a revamp, which included a switch to recording in HDTV, the introduction
- during the ship's 1930 reconstruction; the maximum elevation of the main guns was increased to +43 degrees, increasing their maximum range from 25 @,
- Hurricane Pack 1 was a revamped version of Story Mode; Team Ninja tweaked the
- she was fitted with new engines and more powerful water @-@ tube boilers rated at 6 @
- from 1988 to 2000, the two western towers were substantially overhauled with a viewing platform provided at the top of the north tower.
- latest Missoula downtown master plan in 2009, increased emphasis was directed toward

redeveloping the north side's former rail yard and the area

- 1896: the ribbon of the army version medal of honor was redesigned with all stripes being vertical.
- the new badge includes a star to represent the european cup win in 1982, and
- missoula downtown master plan in 2009, increased emphasis was directed toward redeveloping the north side's former rail yard and the area just
- also assisted in comprehensive infrastructure renovations, restored a dependable supply of electricity, revamped the baggage handling facilities as well as the arrival and departure lounge
- hurricane pack 1 was a revamped version of story mode; team ninja tweaked the encounters
- 1896: the ribbon of the army version medal of honor was redesigned with all stripes being vertical.
- from 1988 to 2000, the two western towers were substantially overhauled with a viewing platform provided at the top of the north tower
- assisted in comprehensive infrastructure renovations, restored a dependable supply of electricity, revamped the baggage handling facilities as well as the arrival and departure lounges
- bond series and the fourth to star roger moore as bond; the plot was significantly changed from the novel to include excursions into space.

Transformer factor 51 in layer 10

Explanation: apostrophe s, possessive

- the irish times was critical of the book's text but wrote positively of the included photographs.
- if it survived long enough to become old-fashioned it was likely to be
- you by phil spector as his inspirations, which resulted to the album's wall of sound resonance.
- the irish times was critical of the book's text but wrote positively of the included photographs.
- album to the wu tang clan and nine inch nails, particularly comparing the album's production(which was done by various producers with executive producer don gilmore
- to the wu tang clan and nine inch nails, particularly comparing the album's production(which was done by various producers with executive producer don gilmore)

- toward the commoners and interested in easing their burden but suspicious about the letter's true purpose, reluctantly signed the document under intense pressure from the french
- the novel's reception was even warmer than that of its predecessor; waugh was
- first song selected for inclusion after her mother's recommendation and the song's melancholic lyrics.
- it divided critics at the time; although they praised the game's writing and scale of choice, they criticized its technical flaws.
- mgm executive al lewin said that several years after the film's release stroheim asked him for the cut footage.
- the game's production was turbulent, as the design's scope exceeded the available resources
- nicki escudero from the phoenix new times noted the song's superficial themes which included lyrics about" sex, money and cheating"
- mgm executive al lewin said that several years after the film's release stroheim asked him for the cut footage.
- labrie said that there was" a lot of discussion" about the song's wording and how direct it should be.

Transformer factor 86 in layer 10

Explanation: Pattern: Consecutive years, this is convention to name football/rugby game season

- with york the previous season, signed a contract until the end of 2013 – 14 and sheffield united midfielder elliot whitehouse signed on a one@-@
- as of the end of the 2014 – 15 season, aston villa have spent 104 seasons in the top tier of english
- won 13 and drew two of their opening 15 league matches of the 1985 – 86 campaign, and seemed destined to win the first division title.
- mcallister, still without a goal in 2009 – 10, couldn't get on the scoresheet in the three games
- john bentley led united to a fourth@-@ place finish in 1912 – 13.
- he made 46 appearances, scoring three goals, in the 2001 – 02 season before spending the close season with the kalamazoo kingdom in the
- he moved to basingstoke town towards the end of 2001 – 02, making his debut in march 2002.

- 7[note 1] was the worst record in the nhl for 2011 – 12 and the first time in franchise history they finished in last place.
- side, who withdrew from the football league at the end of the 1893 – 94 season after finishing bottom of the second division.
- spent a year as a physics instructor at the university of minnesota in 1916 – 17, then two years as a research engineer with the westinghouse lamp
- defeat was a 7 – 2 loss to witton albion in the 2001 – 02 season.
- york achieved three successive wins for the first time in 2013 – 14 after beating northampton 2 – 0 away, with bowman and fletcher scoring in
- he started to develop more of an offensive game, finishing off the 2001 – 02 season with 58 points in the 47 games he played in seattle.
- suart limited matthews to 19 league appearances in 1958 – 59.
- jaw warriors of the western hockey league(whl) during the 2000 – 01 season.

Transformer factor 99 in layer 10

Explanation: past tense

- r. in their review of rihanna' s top 20 songs, time out **ranked**" man down" as their tenth best track, writing that it is
- rolling stone **ranked**" imagine" number three on its list of" the 500 greatest songs
- japan' s computer entertainment rating organization(cero) **rated** ninja gaiden and black, on their release, as 18+
- ultimate classic rock **ranked**" lola" as the kinks' third best song, saying"
- adrien begrand of popmatters **described**" south of heaven" as" an unorthodox set opener
- columbia records **released** it as the album' s fourth and final single on june 14,
- rolling stone **ranked** it the best song of 2009 and the 36th@-@ best song
- indielondon' s jack foley **noted**" wind it up" as a highlight of the sweet escape and called
- premiere magazine **listed** frank booth, played by dennis hopper, as the fifty@-@
- columbia records **released**" crazy in love" on may 18, 2003, as the lead
- the times **considered** the production the best since the original, and praised it for its fidelity

- the good food guide **ranked** hibiscus as the eighth@-@ best restaurant in the uk
- viz media later began **releasing** the manga as simply" ral grad" in february 2008.
- entertainment weekly magazine **ranked**" crazy in love" forty@-@ seven in its list of
- the japanese publisher nihon bungeisha **released** the series in collected volumes from january 2000 to september 2009.

Transformer factor 102 in layer 10

Explanation: African name

- s 1966 to 1971 live performances in paris, prepared to press the album once **mwanga** provided the label with the record< unk>.
- of america" with the nhk symphony orchestra, but cancelled both deals upon **mwanga**' s return from japan.
- 1966 to 1971 live performances in paris, prepared to press the album once **mwanga** provided the label with the record< unk>.
- and langston hughes, and by modern african poets and folk artists such as **kwesi** brew and efua sutherland, which also influenced her auto
- america" with the nhk symphony orchestra, but cancelled both deals upon **mwanga**' s return from japan.
- du bois was buried in **accra** near his home, which is now the du bois memorial centre.
- du bois returned to africa in late 1960 to attend the inauguration of **nnamdi** azikiwe as the first african governor of nigeria.
- david mcgurk, lanre **oyebanjo**, danny parslow, tom platt and chris smith signed new
- and moderate nationalist parties, the most prominent of which was bishop abel **muzorewa**' s united african national council(uanc).
- a few weeks after of human feelings was recorded, **mwanga** went to japan to negotiate a deal with trio records to have the
- and was part of two large campaigns, one to witu and another to **mwele**.
- returned to africa in late 1960 to attend the inauguration of **nnamdi** azikiwe as the first african governor of nigeria.
- in april, **mwanga** arranged another session at cbs studios in new york city, and coleman
- the government and moderate nationalist parties, the most prominent of which was bishop abel

muzorewa's united african national council(uanc).

- ralambo's father, andriamanelo, had established rules of succession by which ralambo's

Transformer factor 125 in layer 10

Explanation: Describing someone in a paraphrasing style. Name, Career

- journalist tim judah suggests that the move may have been motivated by a desire to control a
- the historian nora berend says that the latter measure" may have adversely affected
- from the pyx that were not assayed, and numismatic historian roger burdette speculates that ashbrook, generally well@-
- the pyx that were not assayed, and numismatic historian roger burdette speculates that ashbrook, generally well@-@
- the cricket historian derek birley notes that many of these bowlers imitated the methods of
- critic roberta reeder notes that the early poems always attracted large numbers of admirers
- the figures for the last two years are not available, but sf historian mike ashley estimates that fantastic paid circulation may have been as low as 13@
- aesthetically, ign's tal blevins noted that the game had" a very distinct 40s
- sf historian everett bleiler notes that hersey did not mention the venture in his
- similarly, duke university professor, mark anthony neal, writes, " nas was at the forefront of a renaissance
- club reviewer erik adams wrote that the episode was a perfect mix, between the more subtle
- commenting on the album and its use of samples, pitchfork's jeff weiss claims that both nas and his producers found inspiration for the album'
- the historian stanley karnow said of ky and thi:" both fl
- that were not assayed, and numismatic historian roger burdette speculates that ashbrook, generally well@-@ treated by the
- irataba was described as an eloquent speaker, and linguist leanne hinton suggests that he was among the first mohave people to

Transformer factor 134 in layer 10

Explanation: Transition sentence

- fanny workman have tended to slight or belittle her achievements, but contemporaries, unaware of the far greater accomplishments to come, held the workmans
- scheduled to air in its regular half@-@ hour time slot, but nbc later announced it would be expanded to fill an hour time slot beginning a
- wine and savoy cabbage with a red wine and smoked chocolate sauce, but he otherwise felt that the food was" over@-@ worked" and the
- lap melee when he was hit by romain grosjean; webber was forced to pit straight away, while grosjean was given a ten@
- ra. one was initially scheduled to release on 3 june 2011, but delays due to a lengthy post@-@ production process and escalating
- yamina nomads who were centered at tuttul, and the rebels were supported by yamhad's king sumu@-@
- the item was intended simply as a piece of news, but telegraph lines quickly spread the news throughout the state, fueling procession sentiment.
- both twc and comcast began trials of services based on the system; turner broadcasting was an early supporter of the system, providing access to tbs and
- k> have claimed that he proposed a dictatorship for robespierre, but nonetheless some of them considered him to be redeemable, or at least
- @ 2 style with superfiring pairs of turrets fore and aft; the middle turrets were not superfiring, and had a funnel between them.
- romani being ordered to move out with supplies for the advancing troops, but 150 men, most of whom were past the end of their contracts and entitled to
- ' s boats to enter the creek into which the schooner had fled, the small craft entering the waterway in the hope of storming and capturing the vessel
- @ person shooter elements and a unique on rails control scheme, but the core adventure@-@ style gameplay has been compared to myst and snatch
- stanza 6; movement 4 incorporates ideas from stanzas 7 – 14, and movement 5 relies on stanzas 15 and< unk> movement 2,
- as corps troops that were usually allocated at a rate of one per division; several of the militia units were also later designated australian imperial force units, after

Transformer factor 152 in layer 10

Explanation: in some locations

- while most breeding stallions and racehorses of the era had [stable](#) companions, waxy reportedly was fond of rabbits in his later years and
- planet and the helter skelter music bookshop have also been based [on](#) the street.
- the central bank of somalia, the national monetary authority, also has its headquarters [in](#) mogadishu.
- some allotropes of the other actinides also exhibit [similar](#) behaviour, though to a lesser degree.
- ; fortune 1000 technology company< unk>, for instance, is headquartered [in](#) the area.
- musical@-@ comedy television series maid marian and her merry men were filmed [in](#) cleve abbey.
- ireland,< unk> and donegal bay in particular, have popular surfing [beaches](#), being fully exposed to the atlantic ocean.
- lstoy' s war and peace and chekhov' s peasants both feature [scenes](#) in which wolves are hunted with hounds and< unk>.
- while most breeding stallions and racehorses of the era had stable [companions](#), waxy reportedly was fond of rabbits in his later years and"
- the lancashire and england test cricketer paul allott was born [in](#) altrincham.
- asura, the demon devotee of shiva, are both credited with building [temples](#) or cut caves to live.
- forbidden planet and the helter skelter music bookshop have also been [based](#) on the street.
- thopedic shriners hospitals in the u. s. is also located [in](#) spokane.
- dykes to watch out for and fun home, was born in lock haven [in](#) 1960.
- < unk>, and alessandra ambrosio have each worn [two](#) fantasy bras.

This is the end of visualization of mid level transformer factor. Click [D] to go back.

G High-Level Transformer Factors

Transformer factor 297 in layer 10 with saliency map

Explanation: repetitive structure detector

frontier works, and an original soundtrack by avex group were created based on the game. drama cd: tales of grace s 1 to 4 are side stories that take place during the game's plot. they were released between may 26, 2010 and august 25, 2010. anthology drama cd: tales of graces f 2010 winter, anthology drama cd: tales of graces f 2011 summer, anthology drama cd: tales of graces f 2012 winter, anthology drama cd: tales of graces f 2012 summer, anthology drama cd: tales of grace s f 2013 winter, and anthology drama cd: tales of graces f 2013

cobra nd platinum cardholders, and citibank eva air cobra nd world card) the infinity(infinity mileagelands diamond, royal laurel/ premium laurel class passengers, star alliance first/ business class passengers, american express centurion/ eva air cobrand platinum cardholders, and citi bank eva air cobrand world card holders) the star(infinity mileagelands diamond/ gold, royal laurel/ premium laurel class passengers, star alliance first / business class passengers, star alliance gold members, american express centurion/ eva air cobrand platinum cardholders, citibank eva air cobrand world cardholders, business customers,

quickly set online< unk> alight". " can't get you out of my head" was chosen as the lead single from minogue's eighth studio album fever, and it was released on 8 september 2001 by parlophone in australia, while in the united kingdom and other european countries it was released on 17 september. " can't get you out of my head" was written and produced by cathy dennis and rob davis, who had been put together by british artist manager simon fuller, who wanted the duo to come up with a song for british pop group s club 7. the song was recorded using cuba

typhoon status with two @ - @ minute

sustained winds estimated at 125 km/ h(78 mph). around 1700 utc on may 31, the storm tracked approximately 65 km(40 mi) west of iwo jim a. roughly five hours later, it moved within 15 km(10 mi) of chi chi @ - @ jim a where a pressure of 992 mb(hpa; 29@.@ 30 inhg) was measured. sustained winds on chi chi @ - @ jim a reached 95 km/ h(60 mph); however, these were determined to be unrepresentative of lucille's actual intensity due

first book in vocal music. the modern music series. book 1. new york, new york: silver burdette and company. smith, eleanor(1901). a second book in vocal music. the modern music series. book 2. new york, new york: silver burdette and company. smith, eleanor(1901). a third book in vocal music. the modern music series. book 3. new york, new york: silver burdette and company. smith, eleanor (1905) . a fourth book in vocal music. the modern music series. book 4. new york, new york: silver burde

@ breaking eight weeks at number one on the airplay chart of the country and became the first to garner 3000 radio plays in a single week. subsequently, it became the most@-@ played song of 2001 in the region. " can't get you out of my head" was certified platinum by the british phonographic industry for shipments of 600@,@ 000 units in 2001. the certification was upgraded to double@-@ platinum in 2015, denoting shipments of 1@,@ 200@,@ 000 units. in the united states, " can't get you out of my head" peaked at number seven on the

chart. in mid@-@ august 2015, " la mor di dit a" earned martin his twenty@-@ sixth top ten hit on hot latin songs. he became the fourth artist with the most top tens in the 29@-@ year history of the chart. in late august 2015, martin earned with " la mor di dit a" his fifteenth number@-@ one on the latin airplay chart (up 58 percent, to 11@.@ 8 million audience impressions). eventually, " la mor di dit a" peaked at number six on the us hot latin songs chart, number

one on latin airplay and

, was delivered to sukhoi's experimental workshop to be outfitted with exclusive systems. built by knaapo, its structure has increased carbon@-@ fibre and al @-@ li content. installed was the 2d thrust@-@ vectoring l yu lka al @-@ 31fp, an interim measure pending the availability of the al @-@ 37fu(< unk>< unk>," after burn er@-@ controlled"). the 3d thrust@-@ vectoring l yu lka al @-@ 37 fu was still in development. the al @-@ 31fp, in

ke's former band, though escape the fate only charted at number 25, seven spots lower than the drug in me is you, despite equal sales. in its second week on sales, the drug in me is you dropped about 70% in the united states, selling 5 @, @ 870 copies. this dropped the album 60 spots to number 79 on the billboard 200, and brought total us sales for the album to around 24 @, @ 000 copies. on the billboard charts, the drug in me is you charted at number two on the top hard rock albums chart, number three on the top alternative albums and top rock albums charts,

no, no, no", reached number one on the billboard hot r& b/hip@-@ hop singles& tracks and number three on the billboard hot 100. its follow@-@ up single," with me part 1" failed to reproduce the success of "no, no, no". meanwhile, the group featured on a song from the soundtrack album of the romantic drama why do fools fall in love and "get on the bus" had a limited release in europe and other markets. in 1998, destiny's child garnered three soul train lady of soul awards including best new artist for "no, no, no

oistic warmongers. alexander k rivenko(jonathan adams) finally, introduced in trivial games and paranoid pursuits, is russian alexander k ri venko, the commander of the moonbase where the ispf have their headquarters. a winner of the nobel prize for medicine, it is k ri ven ko's research into bone damage that has contributed

to enabling humanity to access space easily. although the star cops are independent, spring's relationship with k rivenko is often def erential and he frequently seems to capitulate to k ri ven ko's wishes.== production history=== = origins=

that build faith: from the life and ministry of thomas s. monson, salt lake city, utah: des ere t book, isbn 978 @-@ 0 @-@ 87579@-@ 901@-@ 8 — —(1996), faith rewarded: a personal account of prophetic promises to the east german saints, salt lake city, utah: des ere t book, isbn 978 @-@ 1 @-@ 57345@-@ 186@-@ 4 — —(1997), invitation to exal tation, salt lake city, utah: des ere t book, isbn 978@-

dell, tom(2015). gunnerkrigg court volume 5:< unk>. gunnerkrigg court. arch aia studios press. isbn 978@-@< unk > .=== side comics=== siddell, tom(2013). annie in the forest part one. beyond the walls. robot voice comics. siddell, tom(2013). annie in the forest part two. beyond the walls. robot voice comics. siddell, tom(2015). traveller. beyond the walls. robot voice comics. = = = ex pl anatory footnotes=====

95 @. @ 4 kn) f 40 2@-@ rr @-@ < unk> engine, while later examples were fitted with the 23@, @ 000 lbf(105@. @ 8 kn) f 40 2 @-@ rr @-@ 40 8 a . in the early 2000s, 17 tav@-@ 8 bs were upgraded to include a night@-@ attack capability, the f 402@-@ rr @-@ 408 engine, and software and structural changes.< unk> in 1991, the night attack harrier was the first upgrade of the av @-@ 8

, aitrus' meeting with ti' ana, and the birth of their son gehn. the book also explains the destruction of the d' ni civilization. two d' ni, veovis and a' gaeris, plot to destroy their civilization, which they believe has been corrupted. veovis and a' gaeris create a plague which wipes out many of the d' ni and follows them through the ages. veovis is

murdered by a' gaeris for refusing to write an age where the two of them would have been worshipped as gods, and airtus sacrifices himself in order to

inants". a gb rm pa briefing stated the company had" threatened a compensation claim of\$< unk> should the gb rm pa intend to exert authority over the company's operations". in response to the< unk> of the dumping incidents, the gb rm pa stated: we have strongly encouraged the company to investigate options that don't entail releasing the material to the environment and to develop a management plan to eliminate this potential hazard; however, gb rm pa does not have legislative control over how the< unk> tailings dam is managed.==< unk>=== following a

of warped tour. following this, a lesson in romantics was released on july 10 through fearless records. in august, the band went on tour with olympia and sound the alarm. the music video for " when i get home , you're so dead", directed by marco de la torre, was filmed in september. in late september 2007, the band supported paramore in japan and australia. the band went on a co-@-@ headlining tour with madina lake in october and november. the " when i get home , you're so dead " music video was released on november 14, and the single was released on

of the english football league including promotion and relegation. the player's team begins with a low rating in an 8 @ - @ team league. by winning games, the player earns credits, which can be used to purchase the contracts of free agents. by finishing high in the 8 @ - @ team league, the player's team advances to a 16@-@ team league and eventually a 32@-@ team league. the player improves their team by periodically signing free agents, as the competition is tougher in each league. the player wins the mode after winning a playoff tournament in the 32@-@ team league

o da ministra kultury i s z tu ki ii< unk >) 1972 – member of commission" poland

2000" of the polish academy of sciences 1973 prize of the minister of foreign affairs for popularization of polish culture abroad (< unk> ministra< unk>< unk> za< unk>< unk> kultury za< un k>) literary prize of the minister of culture and art(< un k>< unk> mini stra ku lt ury i s z tu ki) and honorary member of science fiction writers of america 1976 – state prize 1st level in the area of

to power the antarctic outpost. above earth, ba'al's armada arrives. to the displeasure of his subordinates, the other system lords, ba'al announces that he will treat the tau < un k> leniently. suspicious about ba'al's thorough knowledge of earth, qetesh betrays him and forces him to tell her everything. she orders the destruction of mcmurdo and the ancient outpost in ba'al's name, but she kills ba'al when teal' c discovers what she is doing. as teal' c escapes to an al < unk>, q ete sh

(156+ kn) each fuel capacity: 18@,@ 000 lb(8@,@ 200 kg) internally, or 26@,@ 000 lb(12@,@ 000 kg) with two external fuel tanks performance maximum speed: at altitude: mach 2@ . @ 25(1 @ , @ 500 mph , 2@ , @ 410 km / h) [estimated] supercruise: mach 1@ . @ 82 (1 @ , @ 220 mph , 1 @ , @ 960 km / h) range : > 1@ , @ 600 nmi(1@ , @ 840 mi, 2@ , @ 960

Transformer factor 322 in layer 10 with saliency map

Explanation: biography, someone born in some year..

. only three pitchers threw more complete games in major league careers shorter than getzein's nine@-@ year career. getzein had his most extensive playing time with the detroit wolverines, compiling records of 30@-@ 11 and 29@-@ 13 in 1886 and 1887. in the 1887 world series(which detroit won, 10 games to 5), getzein pitched six complete games and compiled a 4 @ -@ 2 record with a 2@ . @ 48 era . he also won 23 games for the boston bean eaters in

1890 . = = early years = = get ze in was born in 1864

and telegraph lines and networks. the west construction company, based in chattanooga, tennessee, was a general contracting and construction firm also involved in the operation and maintenance of railway, telephone, and telegraph lines.== personal life===== marriage and children === on april 10 , 1875 , in hampshire county, flournoy married frances " fannie" ann armstrong white (april 10 , 1844 – february 25 , 1922) , the daughter of hampshire county clerk of court john baker white and his wife frances ann streit white . frances white ' s brother, robert white, served as west virginia attorney general, and her

buffalo , new york businessman who made his fortune in five @-@ and @-@ dime stores. he merged his more than 100 stores with those of his first cousins, frank winfield woolworth and charles woolworth, to form the f. w. wool worth company. he went on to hold prominent positions in the merged company as well as marine trust co. he was the father of seymour h. knox ii and grandfather of seymour h. knox iii and northrup knox, the co@-@ founders of the buffalo sabres in the national hockey league . = = biography = = he was born in april 1861 in russell , saint lawrence

stars for eighteen years. the american film institute(afi) ranked cooper eleventh on its list of the twenty five greatest male stars of classic hollywood cinema .== early life== frank james cooper was born on may 7, 1901 , at 730 eleventh avenue in helena, montana to english immigrants alice(nee brazier, 1873 – 1967) and charles henry cooper (1865 – 1946) . his father emigrated from houghton regis , bedfordshire and became a prominent lawyer , rancher, and eventually a montana supreme court justice . his mother emigrated from gillingham, kent and married charles in montana . in 1906, charles purchased the 600@-@ acre

orange (1971), which ku brick pulled from

circulation in the uk following a mass media frenzy — most of his films were nominated for oscars, golden globes, or bafta awards. his last film, eyes wide shut, was completed shortly before his death in 1999. = = early life== stanley kubrick was born on july 26, 1928, in the lying @-@ in hospital at 307 second avenue in manhattan, new york city. he was the first of two children of jacob leonard kubrick (may 21 , 1902 – october 19 , 1985) , known as jack or jacques , and his wife sadie gertrude kubrick

managed with a catch and release regulation. trophy trout and wild brook trout enhancement regulations apply to the remainder. a total of 31 class a wild trout waters have been designated as wilderness trout streams. fishing in class a wild trout waters is permitted year@-@ round, although the killing of fish is forbidden from labor day to the beginning of the following year' s trout season . == gallery== henry bell gilkes on = henry bell gilkes on (june 6 , 1850 – september 29 , 1921) was an american lawyer , politician , school administrator, and banker in west virginia . gilkeson was born in moorefield,

movement, there have been few more remarkable figures than mar jory stoneman douglas."== early life== marjory stone man was born on april 7, 189 0, in minneapolis, minnesota , the only child of frank bryant stoneman (1857 – 1941) and lillian trefethen (1859 – 1912) , a concert violinist . one of her earliest memories was her father reading to her the song of hiawatha, at which she burst into sobs upon hearing that the tree had to give its life in order to provide hiawatha the wood for a canoe. she was an early and voracious reader

amazon . com.=== dvd release===== johann mickl= johann mick l (18 april 1893 – 10 april 1945) was an austrian @-@ born general le utnant and division commander in the german army during world war ii , and was one of only 88 2 recipients of the knight' s cross of the iron cross with oak leaves . he was commissioned shortly before the outbreak of world

war i, and served with austro-hungarian forces on the eastern and italian fronts as company commander in the imperial royal mountain troops. during world war i he was decorated several times for bravery and leadership, and

very unusual properties, such as a quantum critical point behavior, exotic superconductivity, and high-temperature ferromagnetism. = babe ruth = george herman ruth jr. (february 6, 1895 – august 16, 1948), better known as babe ruth, was an american professional baseball player whose career in major league baseball(mlb) spanned 22 seasons, from 1914 through 1935. nicknamed "the bambino" and "the sultan of swat", he began his mlb career as a stellar left-handed pitcher for the boston red sox, but achieved his greatest fame as a slugging outfielder for the

air in regular scheduled services. it includes the city, country, airport and the period in which the airline served the airport. hubs are denoted with a dagger(). = william s. taylor = william sylvester taylor (october 10, 1853 – august 2, 1928) was the 33rd governor of kentucky. he was initially declared the winner of the disputed gubernatorial election of 1899, but the kentucky general assembly, dominated by the democrats, reversed the election results, giving the victory to his democratic party(united states) opponent, william goebel. taylor served only 50 days as governor. a poorly educated but politically astute lawyer, taylor

woods hole, massachusetts, where he studied marine bioluminescence. he also worked at the woods hole oceanographic institution. = = early life = = george thomas reynolds was born in trenton, new jersey on may 27, 1917, the son of george w. reynolds, an uncle for the pennsylvania railroad, and his wife laura, a secretary with the new jersey department of geology. he attended franklin junior high school in highland park, new jersey, until year 10, and then new brunswick high school. he received a bachelor's degree in physics from rutgers university in 1939. he then

entered princeton university, where was awarded

= = shaughnessy was born on march 6, 1892 in st. cloud, minnesota, the second son of lucy ann (foster) and edward shaughnessy. he attended north st. paul high school, and prior to college, had no athletic experience. when he attended the university of minnesota, however, he played college football under head coach henry l. williams and alongside halfback bernie bierman. shaughnessy considered williams to be football's greatest teacher, and williams considered him to be the best passer from the midwest. shaughnessy handled both the passing and kicking duties for the team. he played on

s. gregoras likewise avoids negative comments, as do most modern historians. = george nico l (baseball) = george edward nico l (october 17, 1870 – august 4, 1924) was an american baseball pitcher and outfielder who played three seasons in major league baseball(mlb). he played for the st. louis browns, chicago colts, pittsburgh pirates and louisville colonels from 1890 to 1894. possessing the rare combination of batting right-handed and throwing left-handed, he served primarily as a right fielder when he did not pitch. signed by the browns without having previously played any minor league baseball, nico l made his

dispatched powell and major benjamin mculloch to utah to ease tensions with brigham young and the mormons. powell assumed his senate seat on his return from utah, just prior to the election of abraham lincoln as president. powell became an outspoken critic of lincoln's administration, so much so that the kentucky general assembly asked for his resignation and some of his fellow senators tried to have him expelled from the body. both groups later renounced their actions. powell died at his home near henderson, kentucky shortly following a failed bid to return to the senate in 1867. = = early life = = powell was born on october 6, 1812 near henderson,

the army in 1948. he was promoted to

lieutenant general just before his retirement on 29 february 1948 in recognition of his leadership of the bomb program. by a special act of congress, his date of rank was backdated to 16 july 1945, the date of the trinity nuclear test. groves went on to become a vice-president at sperry rand.== early life== leslie richard groves jr. was born in albany, new york, on 17 august 1896, the third son of four children of a pastor, leslie richard groves sr., and his wife gwen nee griffith, a descendant of french huguenots who

, burns died on november 11, 1928 in brooklyn, new york.== biography== thomas p. burns was born on september 6, 1864, in philadelphia. his parents, patrick and mary burns, were both irish immigrants. in 1883, burns began his professional baseball career as a pitcher with harrisburg of the minor-league interstate association. on the year, burns posted an earned run average(era) of 2.30 over 20 games pitched, 15 of which were starts. when he wasn't pitching, burns played second and third base. burns began the 1884 season playing for the wilmington quicksteps,

@ beats".== credits and personnel== lady gaga – vocals, songwriter and producer redone – songwriter, producer, vocal editing, vocal arrangement, audio engineering, instrumentation, programming, and recording at tour bus in europe trevor mu zzy – recording, vocal editing, audio engineering, and audio mixing at larrabee, north hollywood, los angeles, california gene grimaldi – audio mastering at oasis mastering, burbank, california credits adapted from born this way album liner notes.== charts== = travis jackson = travis calvin jackson (november 2, 1903 – july 27, 1987) was an american baseball shortstop .

= monson was born on august 21, 1927, in salt lake city, utah to g. spencer monson (1901 – 1979) and gladys < unk> monson(1902 – 1973). the second of six children, he grew up in a "tight-knit" family — many of his mother's relatives

living on the same street and the extended family frequently going on trips together. the family's neighborhood included several residents of mexican descent, an environment in which he says he developed a love for the mexican people and culture. monson often spent weekends with relatives on their farms in granger(

it. anderson was a professional accordion player and wrote poetry for various american pagan magazines. in 1970, he published his first book of poetry, thorns of the blood rose, which contained devotional religious poetry dedicated to the goddess; it won the clover international poetry competition award in 1975. anderson continued to promote the feri tradition until his death, at which point april niino was appointed as the new grandmaster of the tradition.== early life===== childhood: 1917 – 1931===== anderson was born on may 21, 1917 at the buffalo horn ranch in clayton, new mexico. his parents were hilaire alexander anderson

was elsewhere. he had recently become engaged and bought his first house in hillsborough. franklin and benjamin pierce were among the prominent citizens who welcomed president jackson to the state on his visit in mid-1833.== marriage and children== on november 19, 1834, pierce married jane means appleton (march 12, 1806 – december 2, 1863), the daughter of jesse appleton, a congregational minister and former president of bowdoin college, and elizabeth means. the appletons were prominent whigs, in contrast with the pierces' democratic affiliation. jane was shy, devoutly religious, and pro-temperance

which took delivery of its eight and last globemaster in november 2015; no. 38 squadron, operating king air's; and the australian army's 68 ground liaison section. all units are based at amberley, with the exception of no. 38 squadron, located at townsville. = clark shaughnessy= clark daniel shaughnessy (originally o' shaughnessy) (march 6, 1892 – may 15, 1970) was an american football coach and innovator. he is sometimes called the "father of the t formation" and the

original founder of the forward pass, although that system had previously been used as early as the 1880s

Transformer factor 386 in layer 10 with saliency map

Explanation: topic: war

he was awarded a companion of the order of st michael and st george for his command of the 4th machine gun battalion, the recommendation of which particularly citing his success during attacks on the hindersburg line. murray's final honour came on 11 july 1919, when he was mentioned in despatches for the fourth time, having received his third mention on 31 december 1918. from june to september 1919, murray — along with fellow australian victoria cross recipient william donovan joyn — led parties of aif members on a tour of the farming districts of britain and denmark to study agricultural methods under the education schemes. after touring through france and belgium,

from large calibre shells; one of them, allegedly a 14 inch (356 mm) round, blew a large hole in her quarterdeck and wrecked the wardroom and the gunroom. she also took several hits by light shells that day, and, although she suffered damage to her superstructure, her fighting and steaming capabilities were not seriously impaired. the ship also participated in the main attack on the dardanelles forts on 18 march. this time a 6 inch (152 mm) howitzer battery opened fire on agamemnon and hit her 12 times in 25 minutes; five of the

. Lt. riefkohl, who was also the first puertorican to graduate from the united states naval academy, served as a rear admiral in world war ii. frederick l. riefkohl's brother, rudolph william riefkohl also served. riefkohl was commissioned a second lieutenant and assigned to the 63rd heavy artillery regiment in france where he actively partici-

pated in the meuse-argonne offensive. according to the united states war department, after the war he served as captain of coastal artillery at the letterman army medical center in presidio of san francisco, in california (1918).

washington times-herald, which ran the headline "hardy wild-eyed aussies called world's finest troops". an article in the chicago daily news told its readers that "australians" in their realistic attitude towards power politics, prefer to send their boys to fight far overseas rather than fighting a battle in the suburbs of sydney". during the battle, weill had received a cable from general sir john dill stressing the political importance of such victories in the united states, where president franklin d. roosevelt was attempting to get the lend-lease act passed. it was finally enacted in march 1941. mackay wrote

he also showed respect for occupied populations and never tolerated pillaging nor violence from his men. as a sign of gratitude, he was offered gifts several times but he was often seen refusing and sending them back. while on campaign in tyrol, he was recorded to have accepted a large sum of money but he immediately distributed it to the local hospitals. further evidence of his humanity was the care that he displayed for the lives and well-being of his men, whom he was always reluctant to sacrifice for the sake of glory. overall as a heavy cavalry commander, nansouty was one of the best men available during the napoleonic

000 troops on 11 february. in march 1919, princess matoika and rijndam raced each other from saint-na-zaire to newport news in a friendly competition that received national press coverage in the united states. rijndam, the slower ship, was just able to edge out the princess — and cut two days from her previous fastest crossing time — by appealing to the honor of the soldiers of the 133rd field artillery (returning home aboard the former holland america liner) and employing them as extra stokers for her boilers. on her next trip, the

veteran transport loaded troops at saint nazaire

at july, met his wife in new york, and together they traveled to columbus, georgia by way of washington, d. c. and atlanta. military schools for the ten years following world war i, troy middleton would be either an instructor or a student in the succession of military schools that army officers attend during their careers. middleton arrived in columbus, georgia with strong praise from his superiors, and would soon get his efficiency report, in which brigadier general benjamin poore of the 4th division wrote of him, "the best all-around officer i have yet seen." by his rapid promotion from

coal and 700 long tons (710 t) of fuel oil and that provided her a range of 3,500 nautical miles (6,500 km) at a speed of 10 knots (19 km/h). her main armament consisted of a dozen obukhovskii 12-inch (305 mm) pattern 1907 52-calibre guns mounted in four triple turrets distributed the length of the ship. the russians did not believe that super firing turrets offered any advantage as they discounted the value of axial fire and believed that super firing turrets could not fire while over the lower turret because of

"It still be playing from 2007" and awarded it" playstation 3 exclusive game of the year". 11th battalion (australia) the 11th battalion was an australian army battalion that was among the first infantry units raised during world war i for the first australian imperial force. it was the first battalion recruited in western australia, and following a brief training period in perth, the battalion sailed to egypt where it undertook four months of intensive training. in april 1915 it took part in the invasion of the gallipoli peninsula, landing at anzac cove. in august 1915 the battalion was in action in the battle of lone pine. following

was transferred to western australia, being attached to the 6th brigade, which was based around geraldton. in september 1942, as part of an army-wide reduction that came about

because of over-mobilisation, the battalion was amalgamated with the 14th battalion to become the 14th/32nd battalion (prahran/footsray regiment). in early 1943, the 14th/32nd battalion carried out amphibious warfare training in queensland before being deployed to the buna-gona area in new guinea in july. the battalion would remain in mainland new guinea and new britain for the next two years, under the command of lieutenant

in an allied air raid on 10 december 1941, mickl was appointed to temporarily command the division. during december, mickl was wounded in the head and hand, but remained at his post. rommel recommended mickl for the knight's cross of the iron cross, for his leadership at sisi rezegh, and it was duly awarded on 13 december 1941. the harsh conditions of desert warfare had begun to affect mickl's health, so at the end of december he was sent home on convalescent leave. eastern front 12th rifle brigade on 25

on to bijeljina which was taken against light partisan resistance late on 16 march. the 27th regiment then consolidated its position in bijeljina while the 28th regiment and the divisional reconnaissance battalion (german: unk) bore the brunt of the fighting as they advanced through celic and koraj at the foot of the majevica mountains. sauberzweig later recorded that the 2nd battalion of the 28th regiment (ii/28) "at celic stormed the partisan defenses with (new) battalion commander hans hanke at the point" and that enemy forces withdrew after

of matthews, the company 2ic, who had taken command almost immediately after the company commander was wounded. under his command, each of the platoons assaulted a different cluster of buildings to which they had been assigned during training on the replica village at hastings. the west side boys' ammunition store was found and secured and, once the rest of the buildings had been cleared, the paras took

up defensive positions to block any potential counter-attack and patrols went into the immediate jungle in search of any west side boys hiding in the bushes. the village was completely secure by 08:00 and the paras secured the approaches with clay more

), increased her metacentric height to 6@.@ 3 feet (1@.@ 9 m) at deep load, and all of the changes to her equipment increased her crew to a total of 1@,@ 188. despite the bulge s she was able to reach a speed of 21@.@ 75 knots (40@.@ 28 km / h; 25@.@ 03 mph). a brief refit in early 1927 saw the addition of two more four @-@ inch aa guns and the removal of the six @-@ inch guns from the shelter deck. about 1931, a high @-@ angle control

became enraged at him, slapping him across the face. he began yelling: " your nerves, hell, you are just a goddamned coward. shut up that goddamned crying. i won' t have these brave men who have been shot at seeing this yellow bastard sitting here crying." patton then reportedly slapped bennett again, knocking his helmet liner off, and ordered the receiving officer, major charles b. etter, not to admit him. patton then threatened bennett, " you' re going back to the front lines and you may get shot and killed, but you' re going to fight. if you don' t, i'

secondary guns, two of which were disabled. the ammunition stores for these two guns were set on fire and the magazines had to be flooded to prevent an explosion. the ship nevertheless remained combat effective, as her primary battery remained in operation, as did most of her secondary guns; ko nig could also steam at close to her maximum speed. other areas of the ship had to be counter-@-@ flooded to maintain stability; 1@,@ 600 tons of water entered the ship, either as a result of battle damage or counter @-@ flooding efforts. the flooding rendered the battleship sufficiently low in the water to prevent the ship from being able

in 1924 and rice institute, houston, texas in 1928. he dropped out of graduate school after one year and decided to hitchhike to san francisco. the lack of work meant hunger, so he chose to join the united states army' s 11th cavalry regiment as a private on july 30, 1930, serving in monterey, california. after a year in the horse cavalry, par rish became an aviation cadet in june 1931 and subsequently qualified as an enlisted pilot. he completed flight training in 1932 and was assigned to the 13th attack squadron at fort crockett, near galveston, texas. one year later in september 1933 parrish

during the battle, murray was awarded the victoria cross. soon after his victoria cross action, he was promoted to major and earned a bar to his distinguished service order during an attack on the hindenburg line near bullecourt. promoted to lieutenant colonel in early 1918, he assumed command of the 4th machine gun battalion, where he would remain until the end of the war. returning to australia in 1920, murray eventually settled in queensland, where he purchased the grazing farm that would be his home for the remainder of his life. re-@-@ enlisting for service in the second world war, he was appointed as commanding officer

10 officers and 315 enlisted men, plus an additional four officers and 19 enlisted men if serving as a flotilla flagship. == construction and career== the ship was ordered on 7 july 1934 and laid down at deutsche werke, kiel, on 2 january 1935 as yard number< unk>. she was launched on 30 november 1935 and completed on 8 april 1937. she was named after max schultz who commanded the torpedo boat< unk > and was killed in action in january 1917. korvettenkapitan martin < unk> was appointed as her first captain. max schultz was assigned to the 1st destroyer division on 26

the command of otto von diederichs. the squadron participated in the fall maneuvers in 1894, which simulated a two@-@ front war against france and russia; deutschland' s

squadron acted as the russian fleet during the exercises. between 1894 and 1897, deutschland was rebuilt in the imperial dockyard in wilhelmshaven. the ship was converted into an armored cruiser; her heavy guns were removed and replaced with lighter weapons, including eight 15 cm (5 @ .@ 9 in) and eight 8 @ . @ 8 cm (3 @ . @ 5 in) guns . her entire rigging equipment was removed and two heavy military mast s were installed

called on many times to maintain order in times of disaster and to keep peace during periods of political unrest . oklahoma governor john c. walton used division troops to prevent the state legislature from meeting when they were preparing to impeach him in 1923 . governor william h. murray called out the guard several times during the depression to close banks, distribute food and once to force the state of texas to keep open a free bridge over the red river which texas intended to collect toll s for, even after federal courts ordered the bridge not be opened . the division would go on to see combat in world war ii as one of four national guard divisions active during

Transformer factor 170 in layer 10 with saliency map

Explanation: topic: music production

2nd street tunnel and part of downtown los angeles spread out over a 48 @ - @ hour period. keshha explained the idea behind the video as well as the experience during an interview with mtv news ; she said that the video was different from her other videos, noting that it was going to show a sexier side of herself. the music video for " we r who we r " is presented as an underground party . the video starts off with futuristic flashing lights. keshha, seen in a ponytail wearing gray and black makeup, chains , ripped stockings, and a sparkly one @ - @ piece leotard made of shards of broken

and several european territories), her" endless love" duet with luther van dro ss (

number @ - @ one in new zealand) and " against all odds " featuring west life (number @ - @ one in the united kingdom). " thank god i found you" was also omitted from the japanese track listing, and replaced with " all i want for christmas is you " . for the album artwork, carey launched a social media campaign on april 12, 2015 , whereby fans had to share a link to her website in order to reveal the cover which was concealed by a curtain . using the hashtag "< unk >",

single," we belong together". he contained to add" but still , if mimi ' s going to mine from her own extensive back catalog of ballads , those are the primo melodies to go for." a reviewer for dj booth thought that minaj" ruined" the song . == music video == the accompanying music video for the remix of " up out my f ace " was directed by carey ' s husband, nick cannon. minaj spoke about filming a video with carey and how she did not believe that the video would ever be released:" i didn ' t even tell anyone i shot a video with

the producer, few days after he had finished the composition , madonna completed writing the lyrics of " i don ' t give a " . solve ig understood that the lyrics were probable references towards madonna ' s life and thus received coverage in the press. however , he was not aware of the inner meaning behind the lyrics. with billboard magazine , the producer further explained: at first i thought we were going to work on one song; that was the original plan . let ' s try to work on one song and take it from there– not spend too much time thinking about the legend, and do something that just makes sense .

provided an additional and assistant engineering . all the instruments were provided by eriksen and hermansen while dean sang the background vocals. in may 2011 , in the mix review, an analyzing commercial productions, mike senior of sound on sound revisited the original mixing of the song . according to him,

before he started the mix, senior played the song a couple of times before releasing what thing about it" bugged" him. working it out, he noted that the harmony of the mix is undermined by the kick drum. " what ' s my name ? " contains basic harmonies that are a bar of f minor , a bar of a major

practiced in their backyards and at < unk > salon, owned by knowles ' s mother, tina . the group would test routines in the salon, when it was on montrose boulevard in houston, and sometimes would collect tips from the customers. their try out would be critiqued by the people inside . during their school days, girl ' s ty me performed at local gigs. when summer came, mathew knowles established a " boot camp " to train them in dance and vocal lessons . after rigorous training, they began performing as opening acts for established r & b groups of that time such as swv, dr u hill and immature. tina

day reception at the greek embassy. upon return to greece, she was greeted at the airport by fans along with the music video of " my number one " playing on the video monitors. while in greece , she attended the opening ceremony of the european final four for the volleyball champions league in < unk >, where her song was played as she appeared on stage with cheerleaders . on march 29, paparizou arrived in valletta, malta where she signed autographs, appeared on television stations, and gave interviews to the local media. following malta, she traveled to serbia and montenegro where she gave additional interviews before moving on to and

and her low hip @ - @ grind during ' rude boy ' were the smash hits of her body language . " deborah linton of city life wrote that rihanna " even manages to make a psychiatric couch look sexy ". linton called the show ' s stage sets impressive and imaginative. rick massimo of the providence journal wrote that rihanna " looked like a neon @ - @ sign rendition of herself during ' rehab ' , rarely addressed the audience, and didn ' t rise above flat cliché in that until the very end

of the show " . " rehab " and rihanna ' s 2009 single " russian roulette " were excluded from the set

only a few hours. he said : " there were a lot of tracks , but i just enjoyed it, to be honest. i knew how i wanted it to sound, and it was pretty much the last song we cut; a lot of the mixing was nailed in the production as well, which helped. dream did a great job producing this track . " the bar one guitar track of " school in ' life " was entirely programmed. similarly, the live drum section in the hook was actually done with programmed drums . once the mixing was over , swivel ' s impression were as follows : [' schoolin ' life] absolutely

tour began on march 1, 2000 at the house of blues in los angeles , while other venues included paris olympia, trump taj mahal, brixton academy, the montreux jazz festival, and the essence jazz festival in new orleans. by july, the tour ' s first half had sold out in each city. the tour lasted nearly eight months, while performances went for up to three hours a night . the voodoo tour was taken internationally, with one of the most notable performances being the free jazz festival in brazil . the music video for " untitled (how does it feel) " portrayed d ' angelo as a sex symbol

ho bson noted that rihanna " rejects the victim stance " in the video for " man down " , and elucidated that she played the role of a rape survivor who shot her attacker. she attributed the location of shooting the video in jamaica as significant, due to how the image of a gun proliferated during 1990s jamaican dance hall ' s to " express female rage ". the prologue depicts rihanna as a " dark @ - @ hooded " femme fatale whereby the narrative explains her motives for murder and provokes the spectator to sympathize with her because she danced in a provocative manner with a man in a club , which

had a deep impact on delonge in that he spent a night up crying for him when he wrote the track . " a little ' s enough " was

inspired by a religious concept in which a god came to bring positive change on earth when it faces terrorism, war or famine. "the war", an anthem about the iraq war and its death toll, is succeeded by "it hurts", a track about a friend of delonge with a cheating girlfriend." it's a terrible situation where my friend is being crushed from the inside out by all the manipulative stuff she's doing and this song's

just took that dress out of the storage - it has a 27-foot train and it was just all hand-beaded and stuff and so i figured we might as well get a use out of it.'== synopsis== the video features carey readying for her wedding, and follows her to the altar, as well as her escape from the reception. many of the actors featured in carey's "it's like that" video were in that of "we belong together", which was shot as a continuation from the "it's like that" video. it begins with

3 in dutch-speaking flanders and number 2 in french-speaking wallonia. it was certified gold by the belgian entertainment association (bea) for selling more than 150,000 copies. although the song spent only 1 week on the italian singles chart (at number 8), it was certified platinum by the federazione industria musicale italiana (fimi) in 2014 for selling more than 300,000 copies.== music video ===== background and synopsis==== anthony mandler directed the music video for "man down" in april 2011 on a beach in

at numbers 18 and 43 in the united states, and experienced moderate success worldwide. unlike her previous records, spears did not heavily promote blackout; her only televised appearance for blackout was a universally @-@panned performance of "gimme more" at the 2007 mtv video music awards.== background and development== in november 2003, while promoting her fourth studio album in the zone, spears told entertainment weekly that she was already writing songs for her next album and was also hoping to start her own record label in 2004. henrik jonback confirmed

that he had written songs with her during the european leg of the onyx hotel tour,"

of albums also had increased sales due to discounting and publicity generated by the single and her performance. billboard estimated that her top-10 digital sales collectively increased over 100 percent. madonna's bestselling album was the 2009 greatest-hits collection, celebration, which sold 160,000 copies (up 100 percent) and reentered the billboard 200 album chart. the following week celebration fell 105 spots on the chart to number 157, with sales falling to 40,000 copies. "give me all your love" fell to number 39 on the hot

opened the performance with "yeah 3x" and was dressed in a white formal suit, accompanied by "full-skirted dancers". brown was eventually joined onstage by tuxedo-clad dancers and began dancing to the 1993 wutang clan single "protect ya neck". his dance routine then moved into 1991, where he danced to nirvana's "smells like teen spirit". brown's performance then came back to the future, where he began to sing "beautiful people". while performing the song, he was suspended in the air, and then lowered to another stage where he continued to

register that she didn't know she had." from the moment she was signed in the film, madonna had expressed interest in recording a dance version of "don't cry for me argentina". according to her publicist liz rosenberg, "since she didn't write the music and lyrics, she wanted her signature on that song... i think on her mind, the best way to do it was go in the studio and work up a remix". for this, in august 1996, while still mixing the film's soundtrack, madonna hired remixers pablo flores and javier garza. according to flores, the singer

d accumulated until then but that was instead an ideal marriage of production and performance." instead, the red lights on the

stage played up the "ominous" tone of the song as it gradually increased its tempo to the point whereby the end of the song was on the verge of sounding like an incantation. for the diamonds world tour, rihanna performed "man down" in a caribbean-themed section of the show, which also included "you da one", "no love allowed", "what's my name?" and "rude boy". james lachno of the telegraph highlight the caribbean-themed

edge of several realities: the film, the dream it inspires, the waking world it illuminates". the music in "i just can't stop loving you", a duet with si edward garrett, consisted mainly of finger snaps and timpani. "just good friends", a duet with stevie wonder, was viewed by critics as sounding good at the beginning of the song, ending with a "chin @-@ bobbing cheerfulness". "the way you make me feel" s music consisted of blues harmonies. the lyrics of "another part of me" deal with being united, as "we

not manufactured. no one paid these kids. "=== live performances === one direction performed "what makes you beautiful" on red or black? on 10 september 2011. the performance started with hosts ant & dec announcing that the band was supposedly running late for their appearance, and cut to a video of one direction boarding a london tube carriage full of fans, as the studio version of the song began playing. each fan on the tube was given a numbered ticket. the band and fans disembarked the tube and made their way to the television studio, where the remainder of the song was sung live. after the song,

This is the end of visualization of high-level transformer factor. Click [D] to go back.