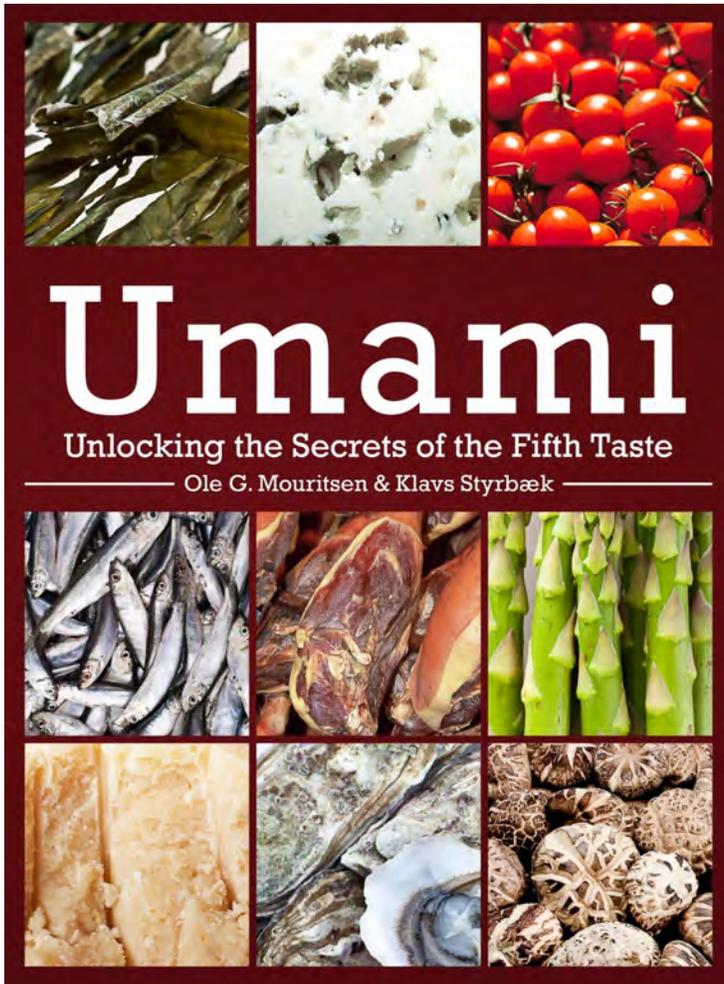


Thursday, October 30, 2025

How Umami Shape Japanese Culinary Practices



Objective:

To understand **UMAMI** — what it is, how it works, and why it matters for both taste and health.

Today's Topics

- ① Three distinct characteristics of UMAMI
 - ① *Basic Taste*
 - ② *Taste Enhancer*
 - ③ *Synergy of Umami*
- ② Umami and Nutrition
- ③ Foods Rich in Umami

Homework (Optional!!)



- **Task:** Think of a simple recipe that demonstrates a good balance of ingredients, incorporating the principles we discussed in class.
- **Group or Individual Work:** You can complete this assignment either individually or as a group, depending on your preference.
- **Submission:** If you want you can take a picture of your dish and send it to me via email along with a brief explanation of how you incorporated the principles.



Let's introduce ourselves!!

① *Get the following information from your neighbor
3 minute*

- ✓ *Name*
- ✓ *Where they are from*
- ✓ *Why they are taking this class*
- ✓ *Favorite food*
- ✓ *Favorite Japanese food (if they have one)*

② *Introduce your neighbor to the whole class
30 seconds/person*





PUMPKIN & SQUASH



Food to live by.

©2010 Earthbound Farm

Classic Japanese Simmered Kabocha Squash

- Kabocha squash $\frac{1}{4}$
- Water 200 cc

- For the Seasonings
 - ◻2 Tbsp sake
 - ◻2 Tbsp mirin
 - ◻2 Tbsp sugar
 - ◻2 Tbsp soy sauce



Let's review!

- ✓ What are the four characteristics of traditional Japanese meals?
- ✓ What is the advantage of including five flavors, five colors and five methods in one meal?

By cooking with an awareness of the 'five flavors, five colors, and five methods,' you can create dishes that are balanced in appearance, taste, and nutrition.



. Five tastes

- . Sweet**
- . Spicy**
- . Salty**
- . Bitter**
- . Umami**





- **Lima Beans** :Protein: 7g
- **Mackerel Prepared with Ginger** (per 100g cooked mackerel):
 - Protein: 19g Fat: 13g (rich in omega-3 fatty acids) Omega-3 fatty acids: ~2.5g
 - Ginger antioxidants and anti-inflammatory compounds.
- **Fried Egg** with a Touch of Salt (1 large fried egg, ~50g):
 - Protein: 6.3g
- **Bitter Melon** (per 100g raw):vitamin C and has antioxidant properties.
- **Broccoli**:
 - Vitamin C: Vitamin K: Important for blood clotting and bone health. Tomato: Vitamin C: Lycopene: Vitamin A:
- **Green Bean**:Vitamin K: Vitamin C: Supports immune function and skin health.
- **Red Pepper**:Vitamin C: Vitamin A (beta-carotene): Vitamin B6: Important for brain development and function.

Let's take a sushi break!

Five Tastes:

Sweet: Carrot

Sour: Sushi Rice

Salty: Cucumber (Salted)

Bitter: Black sesame

Umami: Salmon

Five Cooking Methods

Simmer: Shiitake Mushroom

Steam: Rice

Grill: Salmon

Raw: Cucumber

Fry: Egg

Five Colors:

■ Red: Carrot

● Green: Cucumber

🐣 Black: Shiitake Mushroom

● Yellow: Egg

♡ White: Rice



“Umami”



“Umai” =delicious

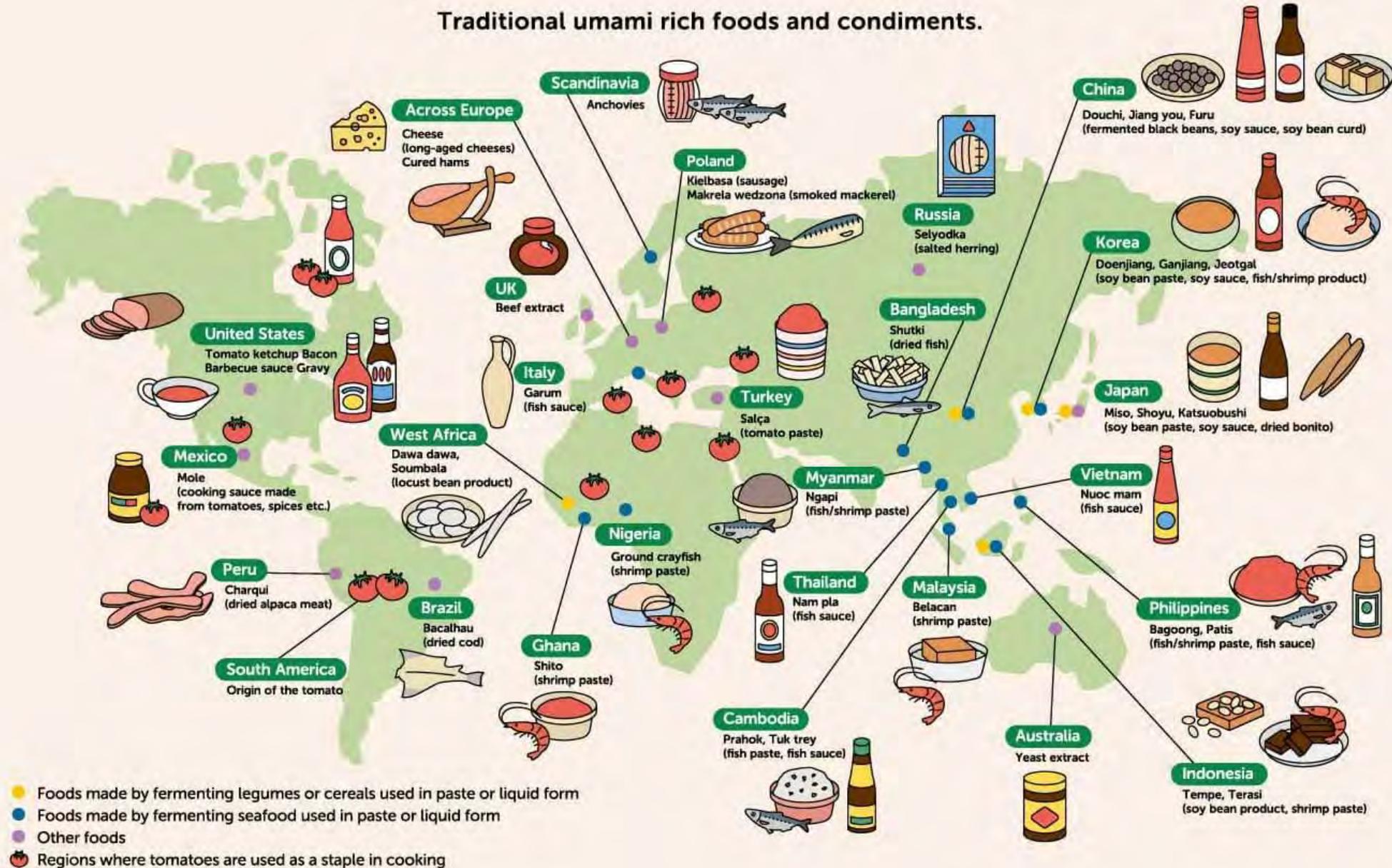


旨味

【Umami】

Umami in the world

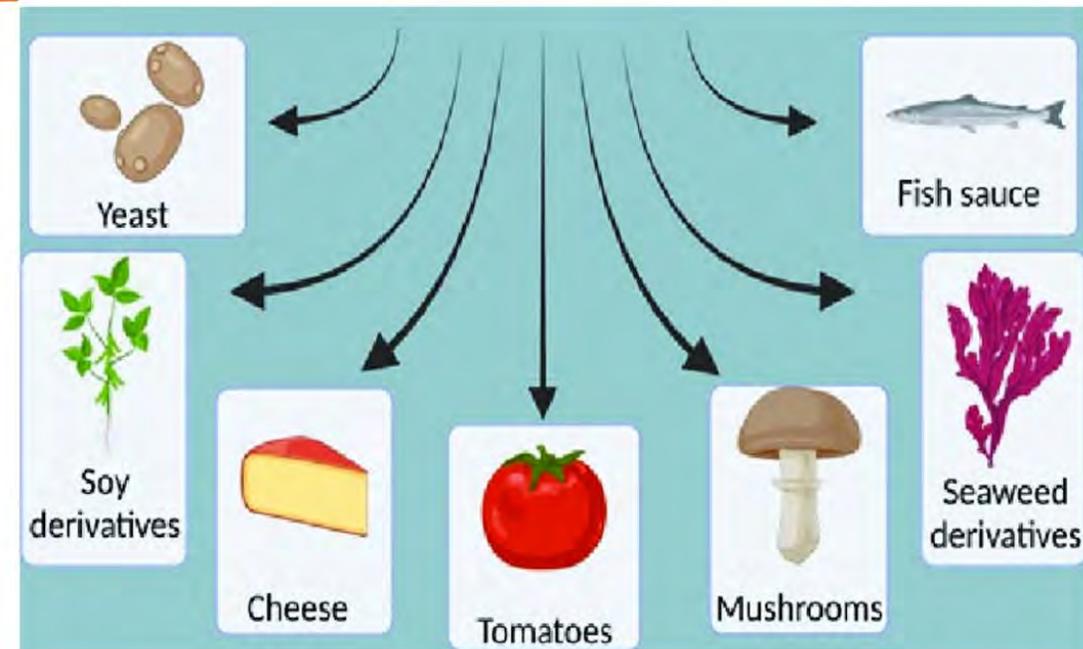
Traditional umami rich foods and condiments.



Three Distinct Characteristics of UMAMI–

① Basic Taste

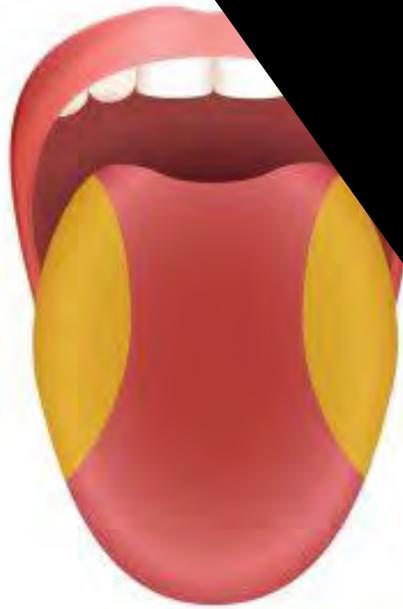
- ❖ One of the five basic tastes
- ❖ Compounds of UMAMI
 - Glutamate
(Amino Acid)
 - Nucleotides
(Inosinate and Guanylate)



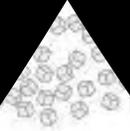
6 Umami-containing ingredients investigated to reduce sodium in food products. (Created with BioRender.com)



sweet



sour



salty



bitter



umami





Three Distinct Characteristics of UMAMI-

② Taste Enhancer



**1) Enhances
Saltiness**



**2) Boosts
Sweetness**



3) Great

**4) Elevates
Pairings**



Flavor



Three Distinct Characteristics of UMAMI



✓① Basic Taste

✓② Taste Enhancer

⇒⇒⇒③ The Synergy of Umami



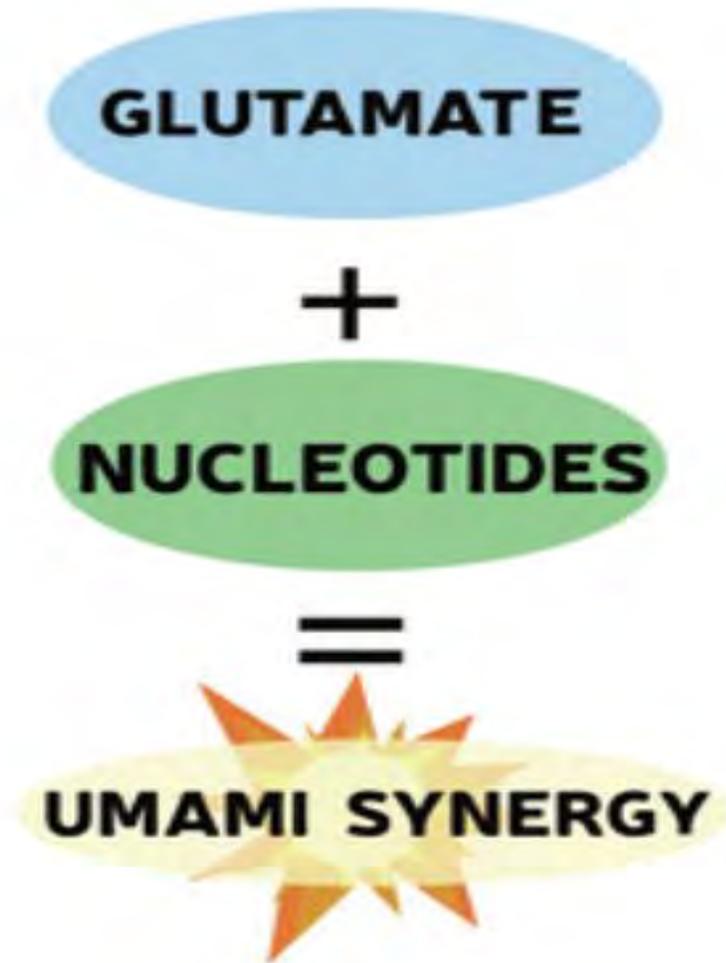
nucleotide
s

Umami
Synerg

glutamate
y

The Synergy of Umami

1 + 1 = WOW!



Three Distinct Characteristics of UMAMI-

③ The Synergy of Umami

**Examples.**

- **Japanese soup stock: Kombu** glutamate + **Dried Bonito Flakes** nucleotides
- **Pepperoni Pizza** :cheese & tomato (glutamate) + cured meat (nucleotides)
- **Steak with Mushrooms** : mushrooms (glutamate) + beef (nucleotides)
- **Spaghetti Bolognese** : tomatoes & Parmesan (glutamate) + beef (nucleotides)

Let's take a sushi break!

Five Tastes:

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Sour: Sushi Rice

Salty: Cucumber (Salted)

Bitter: Black sesame

Umami: Salmon

Five Cooking Methods

Simmer: Shiitake Mushroom

Steam: Rice

Grill: Salmon

Raw: Cucumber

Fry: Egg

Five Colors:

■ Red: Carrot

● Green: Cucumber

🐣 Black: Shiitake Mushroom

● Yellow: Egg

♥ White: Rice







UMAMI and Its Nutritional Value

- ✓ Salt Reduction
- ✓ Supports Protein Intake
- ✓ Appetite Control
- ✓ Nutrient-Rich Foods

*

***Fresh tomato < Ripe tomato < Cooked tomato < Tomato sauce (highest umami)**

**Examples
of Foods
Rich in
Umami -2)**

- Steak / Burgers (Beef)**
- Chicken**
- Pork**
- Seafood**
- Soy sauce**
- Corn Green peas**
- Nuts (like walnuts, peanuts)
etc.**

Examples of Foods Rich in Umami-2)

- **Steak / Burgers (Beef)** – Rich in inosinate (a nucleotide), especially grilled or seared.
- **Chicken (especially roasted or broth)** – Another classic source of inosinate.
- **Pork (ham, bacon, pulled pork)** – Salt-cured or slow-cooked pork has concentrated umami.
- **Seafood (shrimp, crab, clams, oysters)** – Naturally high in nucleotides, very umami-forward.
- **Soy sauce (used in marinades, takeout, BBQ sauces)** – A pantry staple with glutamate.
- **Corn (especially sweet corn or corn on the cob)** – Surprisingly high in glutamate.
- **Green peas** – A common side dish, but also rich in glutamate.
- **Nuts (like walnuts, peanuts)** – Contain glutamate in smaller amounts but still contribute.

Create Your Own Umami-Boosting Recipe!

Basket A



Foods Rich in Glutamate

- Tomatoes 🍅
- Parmesan cheese 🧀
- Kombu (kelp) 🌿
- Soy sauce 🍶
- Green peas 🍓
- Corn 🌽
- Cabbage 🥬

Basket B



Foods Rich in Nucleotides

- Bonito flakes (katsuobushi) 🐟
- Dried shiitake mushrooms 🍄
- Chicken 🍗
- Pork 🍖
- Beef 🍖
- Clams 🍖
- Shrimp 🍤

Create Your Own Umami-Boosting Recipe!

1 Check the Ingredient Lists

(Basket A: Glutamate-rich foods, Basket B: Nucleotide-rich foods)

***YOU CAN ADD OTHER INGREDIENTS IF YOU WISH!**

2 Pick Your Partners

Choose **one food from Basket A + one food from Basket B.**

3 Create a Simple Dish

Think: soup, salad, snack, or anything quick & tasty.

4 Give It a Name

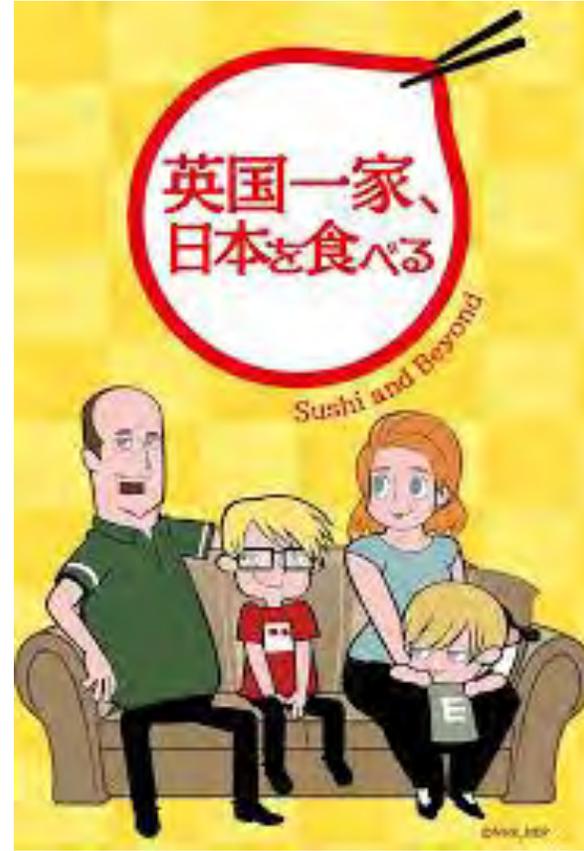
Be creative—“Clam-tastic Tomato Soup” or “Cheesy Mushroom Surprise”!

5 Share & Discuss

Tell us your dish idea, and let's talk about why the umami gets stronger.

Example Combos

- **Tomatoes (glutamate) + Parmesan (nucleotides) → classic pasta topping**
- **Kombu (glutamate) + Bonito flakes (nucleotides) → dashi broth**
- **Soy sauce (glutamate) + Beef (nucleotides) → beef teriyaki**
- **Green peas (glutamate) + Clams (nucleotides) → clam and pea risotto**



Questions & Comments

- 1) Any questions you have about today's material.
- 2) Was there a thought-provoking part in today's material?
If so, what was it?

